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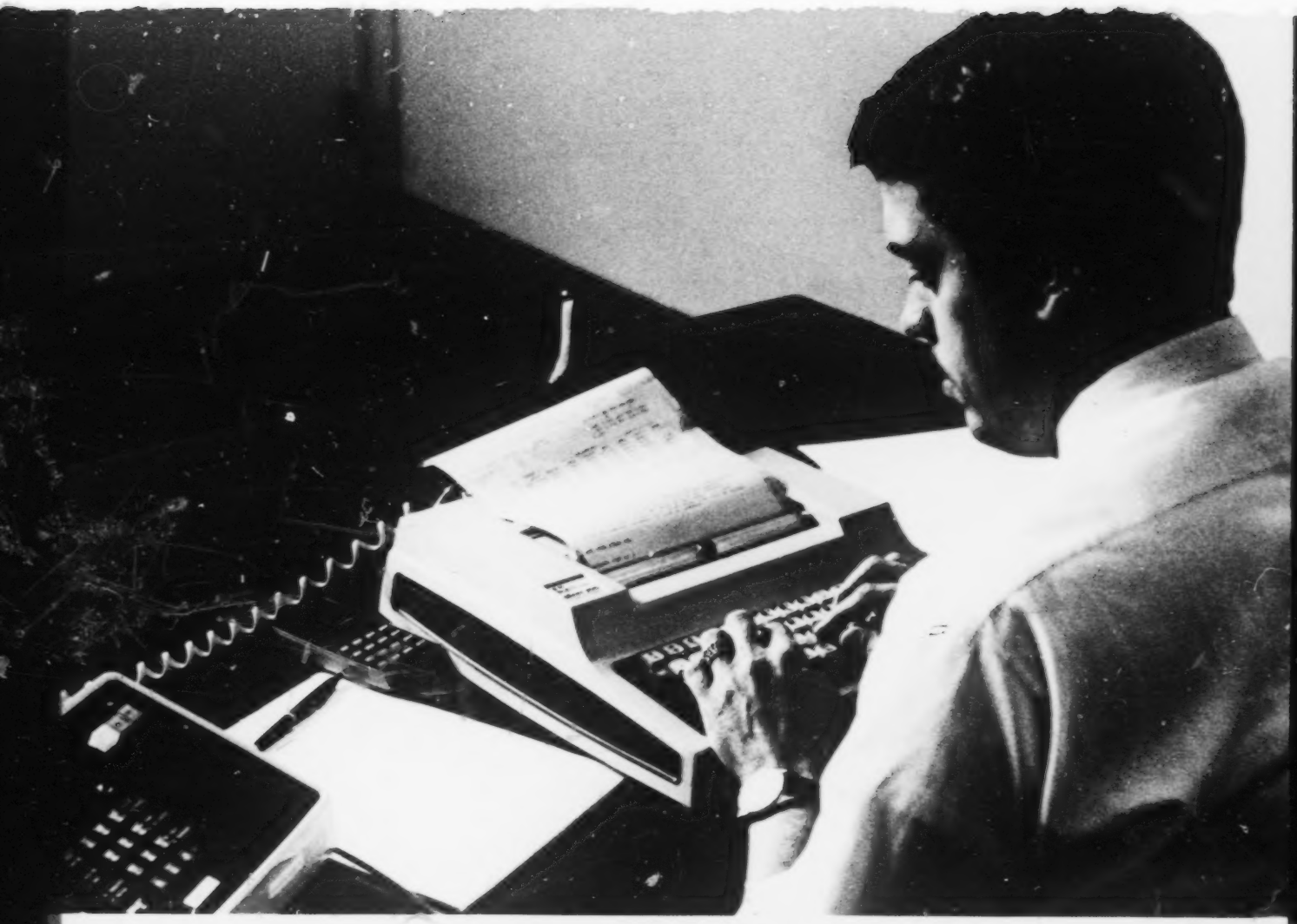
THE OIL PRODUCING INDUSTRY IN YOUR STATE

1981

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA



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Now you can take full advantage of one of the best casing design programs in the world. Potential savings are enormous and the cost is negligible.

Lone Star Steel Company has developed this program. As a service to the industry, we maintain it and make it available through *General Electric Information Service Company.*

Anyone in the world who can access the GE computer network can use the program to obtain casing string designs tailored to special requirements.

Designs may be optimized for cost and performance. Precise cost figures can include freight.

If the optimum casing is not available, a string may be designed using available weights and grades.

Designs to accommodate specific bit selections may include oversize casing and special drifts, if needed.

Collapse, burst and tension loads and design factors are shown for each section. If no casing meets design requirements, a warning is printed and a string is designed using best available items.

The Lone Star Steel program can design liners as well as conventional strings.

Buoyancy can be considered. Multiple designs may be run with one input.

We, at Lone Star Steel, are happy to provide this casing design program for you. For those of you who want your own engineers to use the program directly, we have prepared a folder which includes all the information you need. Simply contact your nearest Lone Star Steel sales office or write our executive offices in Dallas.

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THE OIL PRODUCING INDUSTRY IN YOUR STATE
1981 EDITION

AN IPAA PUBLICATION

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SOURCES OF DATA

The data in this publication have been collected from various published sources including, where necessary, estimates based on the best information available. The individual sources, to which credit is gratefully acknowledged, are as follows:

Data Re Producing States

Line No.	
1	World Almanac
2	Various state and industry sources
3	World Almanac
4-5	Estimated by IPAA from various state and industry sources such as Petroleum Information Corporation
6	Sum of lines 4 and 5 divided by line 3
7-10	Estimated by IPAA
11	Sum of lines 9 and 10
12-13	U.S. Department of Energy based on 1979 values
14	State Agencies cooperating with the U.S. Bureau of Labor Statistics
15-16	Energy Information Administration, World Oil, Arnold & Kemnitzer, World Petroleum Report, AIME Statistical Yearbook
17	Society of Exploration Geophysicists
18-19	Energy Information Administration, World Oil, Arnold & Kemnitzer, World Petroleum Report, AIME Statistical Yearbook
20	Stripper Well Report, Interstate Oil Compact Commission and National Stripper Well Association: based on 1979 production
21-23	World Oil and other industry sources
24	Energy Information Administration except some small states estimated by IPAA and 1980 Natural Gas Liquids Production calculated by IPAA
25-26	American Petroleum Institute and American Gas Association and U.S. Department of Energy
28-29-30	World Oil and American Petroleum Institute
31	World Petroleum Statistical Yearbook, Oil and Gas Journal, International Oil Scouts Association, American Petroleum Institute
27	Hughes Tool Company

Individual state data may not add to United States total in all cases since data for some miscellaneous states are not available.

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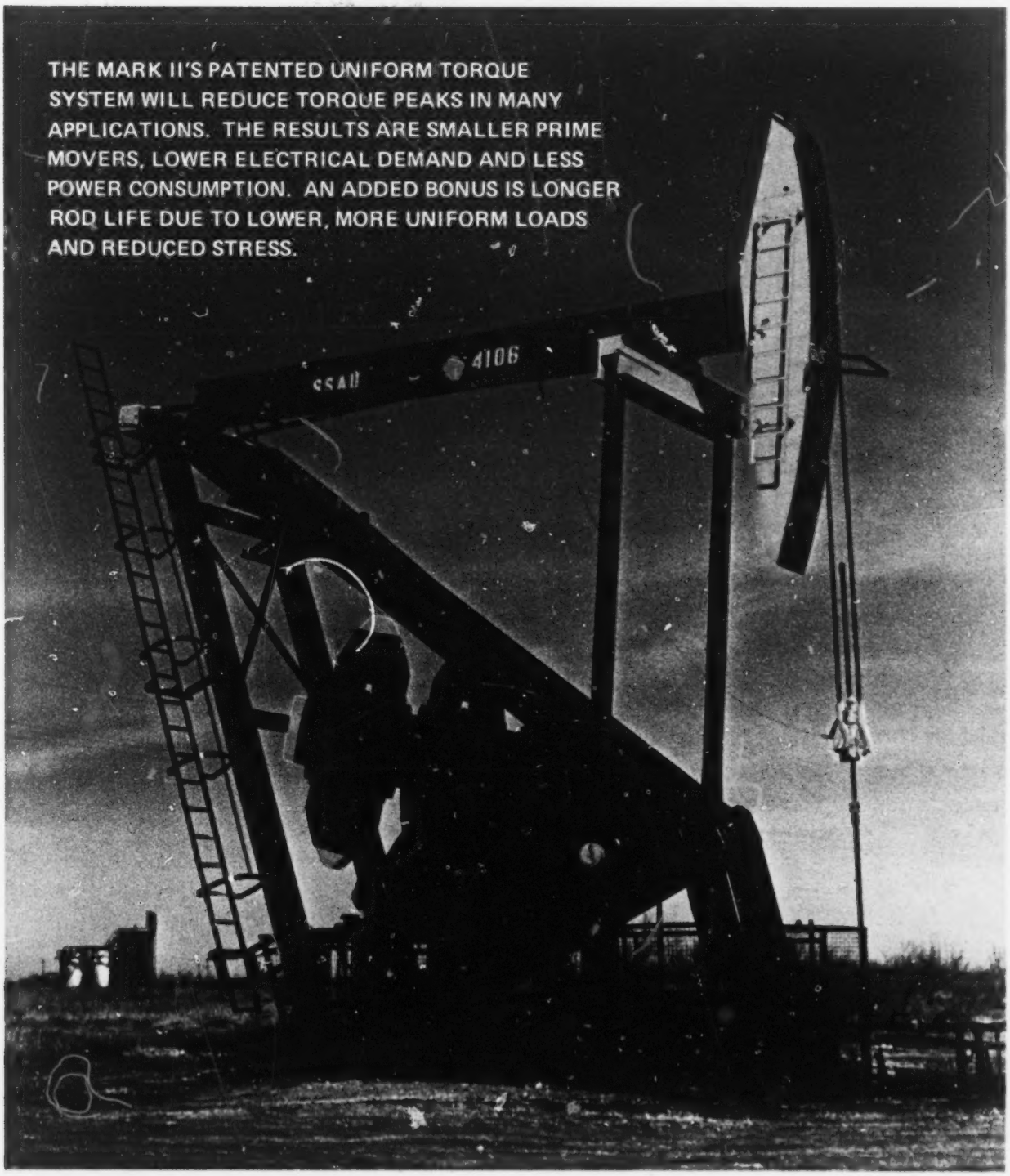

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LUFKIN, TEXAS

Introduction

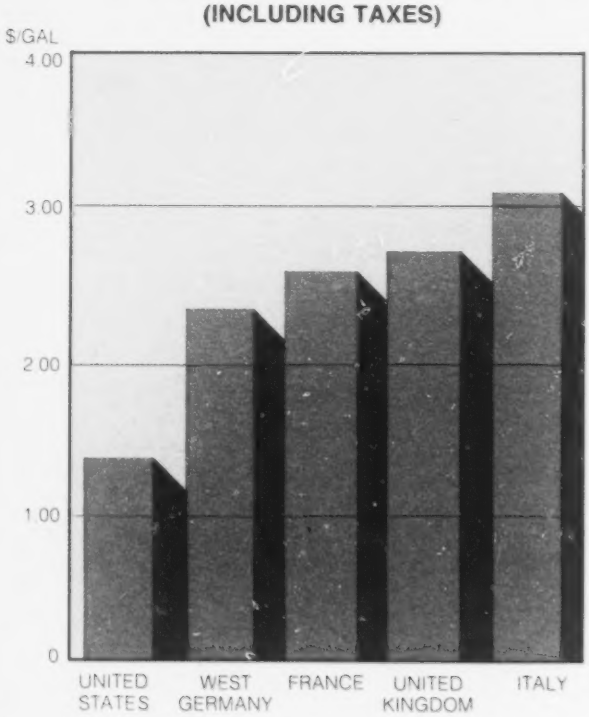
The Oil Producing Industry In Your State is published annually by the Independent Petroleum Association of America to illustrate the importance of the oil and gas producing industry to the economics of each of the 33 producing states and the United States as a whole.

The embargo on oil imports into the United States in 1973 demonstrated beyond any doubt that the United States cannot afford to be dependent on unreliable foreign sources for anything that is vital to our way of life. The long lines at gasoline filling stations and shortages of home heating oils emphasized the importance of oil and gas to the economy of our country and to our very existence.

Since 1973, the year prior to the embargo, there has been a steady improvement in oil and gas prices received by producers. This improved price has been reflected in the sharpest increase in drilling activity the industry has ever known. The average number of rotary rigs active in the United States has increased from 1,107 in 1972 to 2,912 in 1980, an increase of 163%. All time records were set in 20 of our leading producing states. This increase in drilling activity is continuing into 1981 with the number of rigs active in mid-year more than 30% higher than at the same time in 1980.

RETAIL PRICE OF REGULAR GRADE GASOLINE (MARCH 1981)

(INCLUDING TAXES)



The increase in rotary rig activity has also been reflected in the number of well completions. The number of wells drilled in the search for oil and gas in 1972 was only 28,755. In 1980 an all-time record of 62,462 wells were completed. This was an increase of 33,707 wells or 117% over the number drilled in 1972. Estimates as to the number of wells to be drilled in 1981 range as high as 75,000-80,000.

The increased price for crude oil, which has made these increases in drilling activity possible, has naturally resulted in higher prices for petroleum products. Even with these higher prices, however, the price of gasoline in the United States is still far lower than in any of the major developed countries of the world. For example, the average U.S. price of gasoline in April 1981 was $1.34 per gallon. The comparable figure for West Germany was $2.35, France $2.65, United Kingdom $2.75 and Italy $3.08.

Another encouraging series of figures, collected by IPAA for publication in this booklet, is the acreage under lease for oil and gas. A total of almost 478 million acres, or more than 21 percent of the entire land area of the United States, was either productive of or under lease for oil and gas on January 1, 1981. About 125 million of this total was on U.S. public, acquired or Indian lands. If the United States is to again become self-sufficient with regard to oil and gas it is extremely important that more public lands be made available for oil and gas exploration.

Acreage under lease figures are shown for each state on the individual state pages and are summarized in a table in the back of the book. In seven of the producing states more than 50% of the en-

tire land area is under lease and in another 12 states more than 25%.

With our nation continuing to have unemployment problems it is significant to note that the number of persons employed by the major segments of the petroleum industry has increased steadily in recent years and reached a total of 1,762,825 in 1980.

The estimated number of employees in the major segments of the industry for which information is available is as follows:

Gasoline Service Stations	606,216
Oil and gas extraction	558,680
Wholesale trade	235,048
Transportation	191,047
Manufacturing (Refining, Etc.)	171,824
Total	1,762,815

In addition to the above mentioned statistical series, all available facts pertaining to the industry in the 33 producing states is summarized on two pages for each of the states. State maps show the counties in each state which have production and the detailed statistics show the number of wells completed, oil and gas production, value of production and many other items of importance. Following these individual state pages are a number of statistical tables containing important historical series of data for the industry.

It is the sincere hope of IPAA that readers of this book will find the data useful as a source of information about the oil and gas producing industry in the United States. If there are any questions regarding the contents of the book please direct your inquiries to the Association and every effort will be made to provide answers.

Percent of Land Under Lease for Oil and Gas

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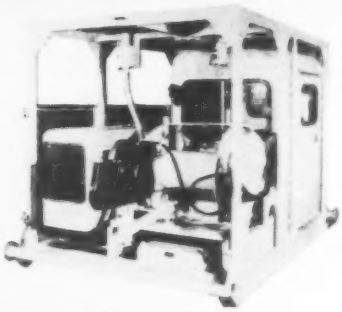
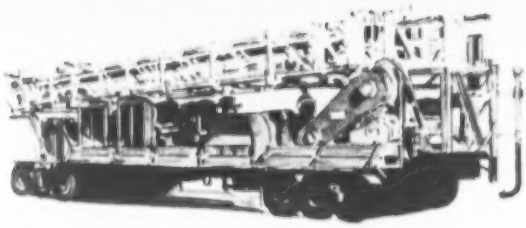
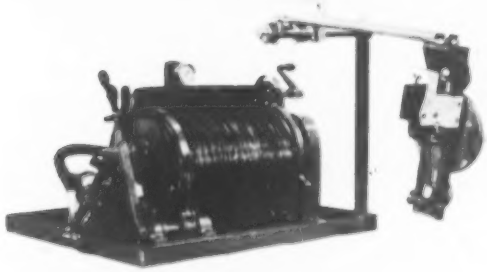
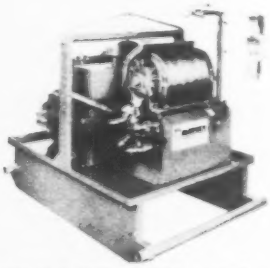


JSO WELL LOGGING UNIT
30,000 feet of 7/32" cable or 15,000 ft. of 5/16"





TRAVELER
15,000 ft. of 0.092 in. wire line
utilizing rig hydraulic power



GCS B-1 WIRELINE UNIT
25,000 ft. of .092" wire line

GCS-PTO TRUCK MOUNTED WIRELINE UNIT
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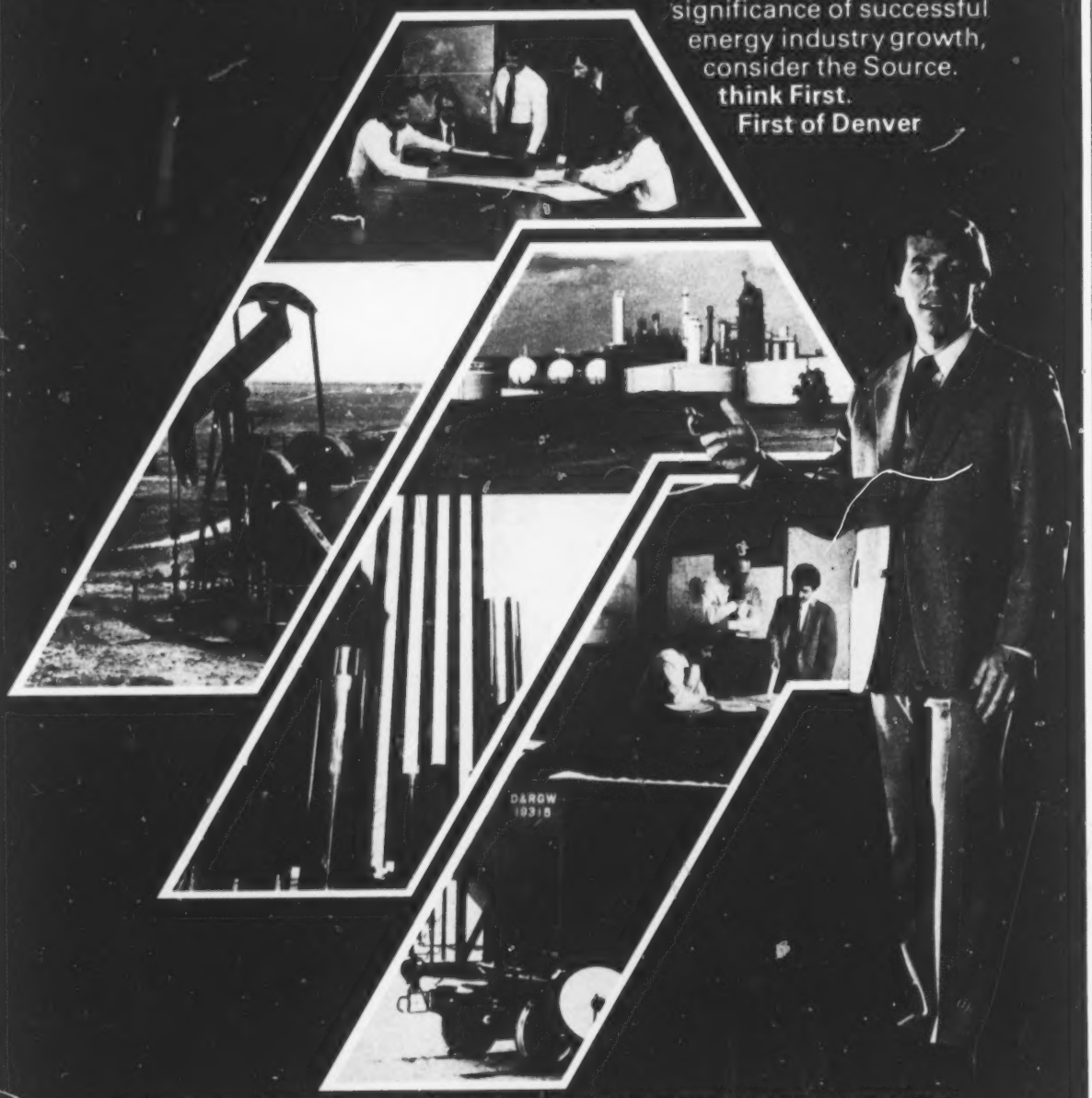

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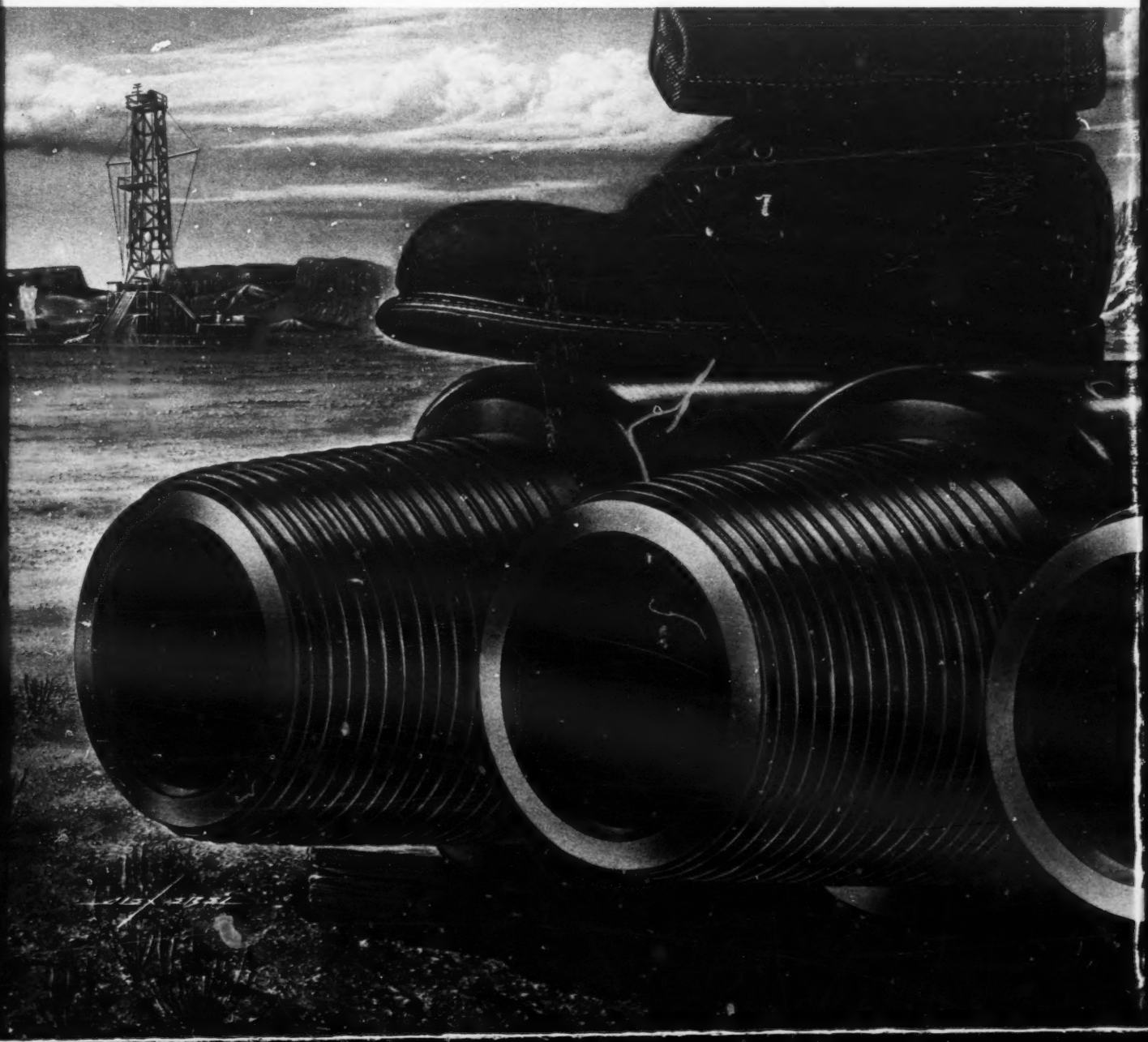

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THE TOOLS OF THE TRADE.

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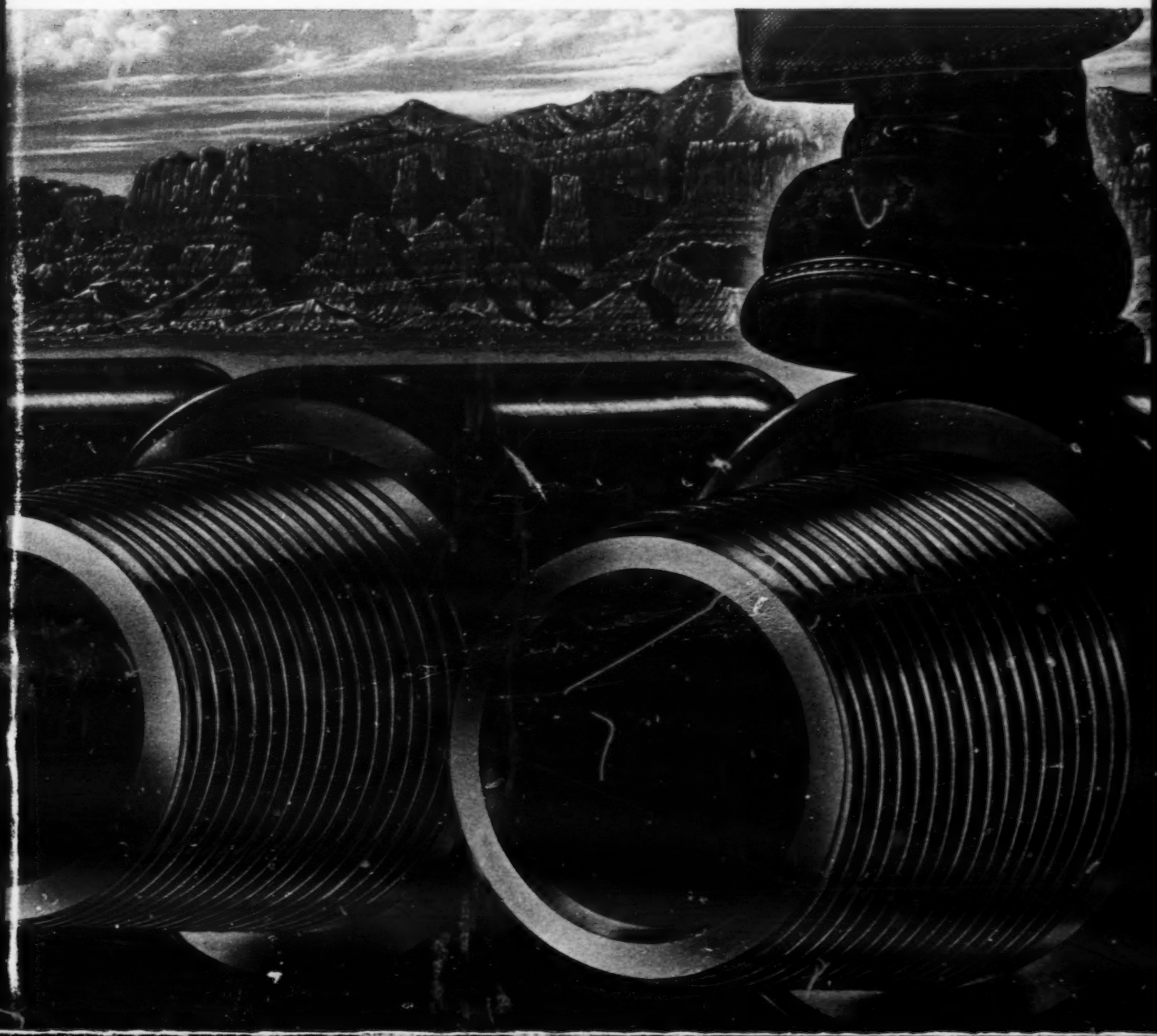

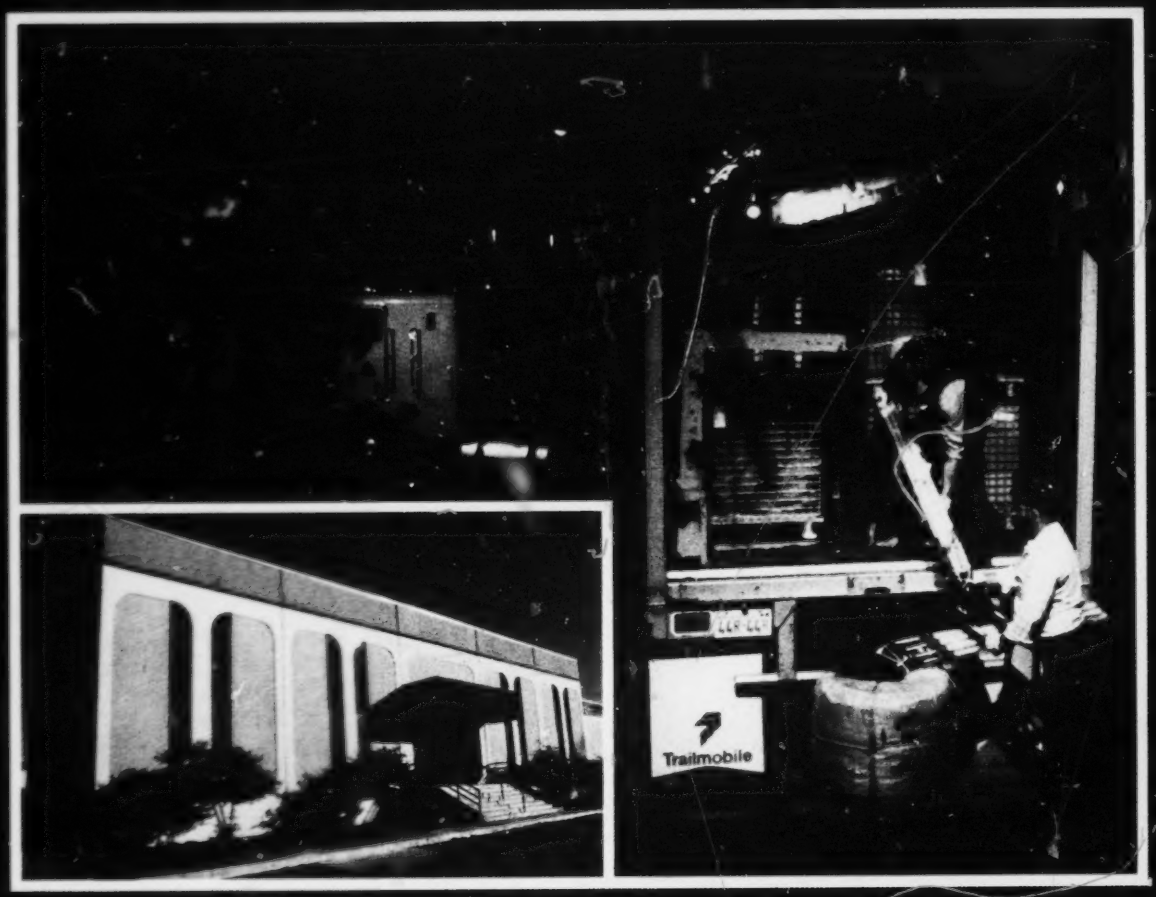

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KEY DEFINITIONS

CRUDE OIL — Hydrocarbons, in liquid form, of such a variety of mixtures that no two are the same. The two major categories are sour, with 1 percent or more sulfur, and sweet, with less sulfur.

NATURAL GAS — Hydrocarbons, in gaseous form or mixed with crude oil, classified as associated, dissolved, or non-associated.

NATURAL GAS LIQUIDS — Hydrocarbons found with natural gas and liquefy at the surface.

RESERVOIR — Rock, within a sedimentary basin, of such porous space as to permit oil or natural gas and water to move freely. The hydrocarbons are found within the reservoirs in local accumulations known as traps.

FIELD — An area which consisting of a single or multiple reservoirs encompasses a group of oil and gas wells.

GEOPHYSICAL ACTIVITY — The search for those geologic structures which are potential petroleum bearing formations by means of geophysical devices.

CREW MONTHS — Time measure of the geophysicist search for petroleum.

ACREAGE UNDER LEASE — The amount of land leased by the owner (private citizen, state or federal government) for the search for petroleums. If the acreage leased proves productive, the leasee must also pay to the mineral-rights owner a Royalty Payment, usually 1/6 to 1/8 of actual production.

DERRICK — A tapering tower (of open steel framework today) built over a well site to provide support for the drilling equipment.

ROTARY RIG — A derrick equipped with rotary drilling equipment capable of drilling a bore hole (as opposed to a cable tool rig which drills on the percussion principle).

WELL — A hole drilled to find or produce crude oil or natural gas or to provide related services. It is classified as oil, gas, dry, stratigraphic, or service.

EXPLORATORY WELL — Either an oil, gas, or dry hole drilled to discover an oil bearing formation or its limits.

DEVELOPMENT WELL — Either an oil, gas, or dry hole drilled in an area known to be productive.

OIL WELL — An exploratory or development hole drilled for the production of crude oil.

GAS WELL — An exploratory or development hole drilled for the production of natural gas.

DRY HOLE — An exploratory or development hole which produces no oil or gas or so little as to make it financially impossible to complete. Also known as a 'duster.'

NEW FIELD WILDCAT WELL — One of the five subdivisions of an exploratory well, a new field wildcat well is one drilled in an area where there has been no previous production. Named such, according to lore, because wildcat referred to an area where the only inhabitants were wildcats.

STRIPPER WELL — A well which pumps or 'strips' less than 10 barrels of oil per day.

MARGINAL WELL — A well which is capable of production only by artificial lift and whose production when so equipped is limited.

COMMERCIAL WELL — A well whose net production is sufficient that it could be expected to pay out and yield a profit for the operator within a reasonable time.

OIL COUNTRY TUBULAR GOODS — Casing, tubing, and drill pipe used in drilling for producing hydrocarbons.

BARREL — The standard measure for petroleum. Originated from the early method of transporting oil in the 1860's by means of a wooden barrel. In the United States one barrel is equal to 42 U.S. Gallons; a Canadian barrel is equal to 35 Imperial gallons.

CUBIC FEET — The standard measure for natural gas.

PIPELINE — A tube or system of tubes which transports oil or gas in an extremely economical and easy method because the petroleum can go from the well to storage tank or to the refinery.

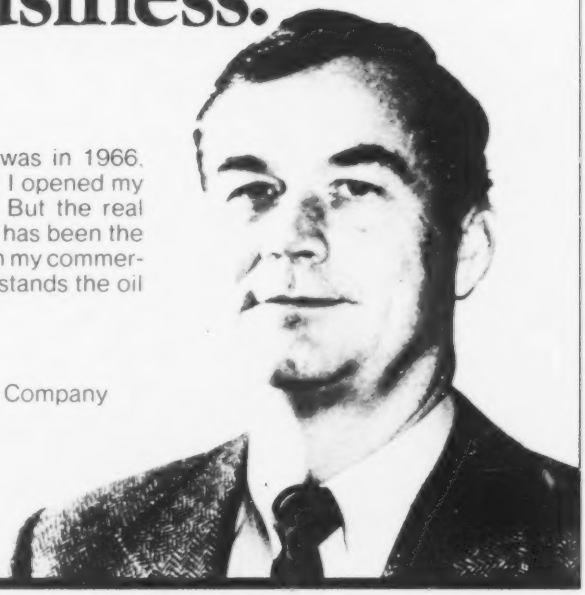
TANKER — An ocean-going ship which hauls crude oil or petroleum products in bulk and whose size is measured in deadweight tons (DWT), the total tonnage (in long tons) of cargo, fuel, water, and stores the ship can carry. The size of a tanker has grown with the demand: up to the 1950's the T-2 with 16,500 DWT capacity was standard; today Very Large Crude Carriers (VLCCs) with 200,000 DWT and Ultra Large Crude Carriers (ULCCs) with 350,000 tons are used (one long ton = 7.5 barrels).

REFINERY — A plant for separating crude oils and converting these major components into finished products.

PRODUCT — Any commodity made from oil or gas.

All credit for the above definitions is given to the following sources: American Petroleum Institute, "Standard Definitions for Petroleum Statistics," 1st Ed.; Langenkamp, R. D., "Handbook of Oil Industry Terms and Phrases," Mobil Oil; "The Language of Oil," and Williams, H. R. and C. J. Myers, "Manual of Oil and Gas Terms," 2nd Ed.

"Right from the start, they've understood me and my business."



"My initial experience with Liberty was in 1966, when I received a Libertycard. Later I opened my Liberty personal checking account. But the real plus in my relationship with the bank has been the professional assistance received from my commercial account officer who really understands the oil and gas business."

Ray H. Potts, Co-Owner
Potts-Stevenson Exploration Company
Oil and Gas Developer

Ask Liberty's largest customers about their beginnings. Many will tell you they started small, and that Liberty bankers have been an important factor in their growth.

We know a great bank's strength depends on the quality of its service. Liberty's is a natural outgrowth of the intense personal interest we have in each and every customer — large or small. Whether you're a personal or commercial customer — even if you feel your account is too small to interest a big bank — talk to us. We intend to help you become financially stronger and more productive by giving you the very best service we can give — whether you're just starting out . . . or have already arrived.

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That's what Turbonomics is all about. The unique economic advantages of measuring your gas with the Rockwell Turbo-Meter Advantages orifice meters can't match. Like quicker, more economical flow data.

FASTER FACTS.

The Turbo's digital readout gives you the exact total line volume at a glance. With no messy charts to collect and decipher. No need for extra staff or expensive integrating equipment. And no costly delays.

How much could this save you? One major midwestern producer specifies Turbos and saves $70 per meter each month on chart integration costs alone.

That's Turbonomics in action

And since the Turbo eliminates the often lengthy time lag from chart collection to final integration, you get the facts you need *when* you need them.

Your saving? Only time. But time, after all, is money.

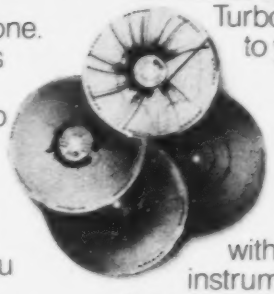
COMPUTER COMPATIBLE.

Because the Turbo's digital volume information is simple and straightforward, the meter is a natural for remote reading or computer input.

Turbos are also more economical to automate than orifice meters. You simply attach a pulse generator. That's *it*. Because unlike orifice meters, Turbos need no expensive DP cells to relay their flow data to you.

TRY BEFORE YOU BUY.

You can easily prove these Turbonomic savings to yourself.

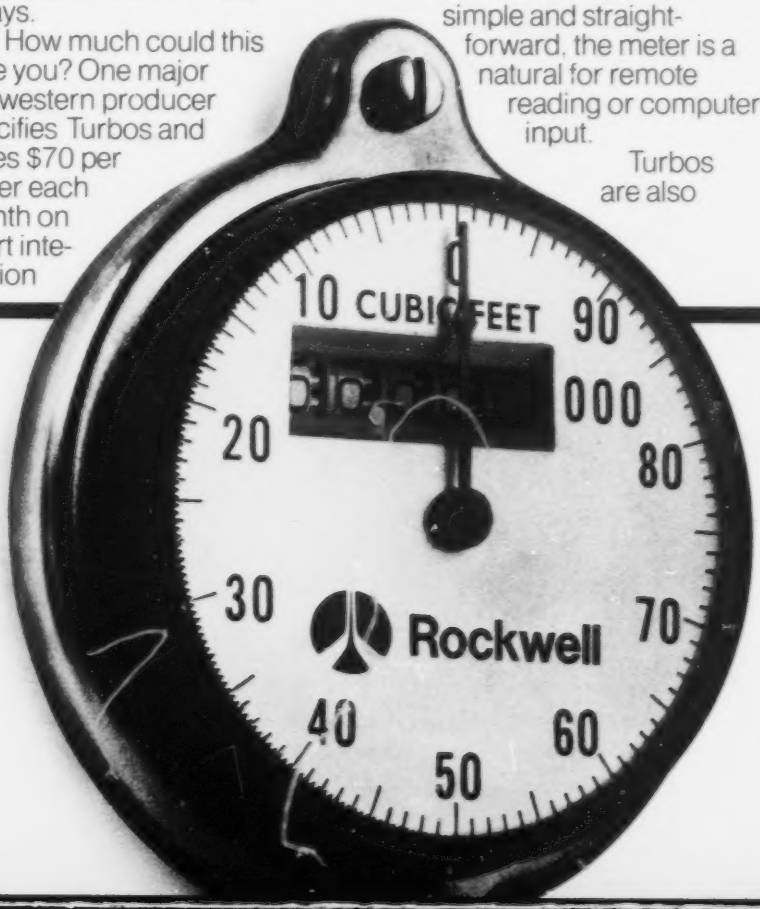


Simply take the Turbo Challenge. Complete and send us the coupon below. You'll get a Turbo, with whatever Rockwell instrumentation you need, for a six-month free trial.

Then, compare its performance and Turbonomic advantages with any orifice meter.

You'll find the Turbo is one cost-cutter you can really count on.

G-7903



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TAKE THE TURBO CHALLENGE. FREE.

Yes, I'll take the Turbo Challenge! Please have a Rockwell representative contact me to arrange a six-month free trial.

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Address

City State Zip

Company

Position Phone

Mail to: Joseph L. Pond
c/o Municipal & Utility Division
Rockwell International
400 N. Lexington Avenue
Pittsburgh PA 15208

SECURING OUR FUTURE

As the 20th century begins to wane, it will probably begin to mark the end of an era that brought this nation to a historic high in cultural and industrial development.

The basic reasons for this nation's phenomenal growth during the last century were its people, its energy base and plain old Yankee ingenuity. We of the petroleum industry have been, for the past century, instrumental in making much of this growth and prosperity possible.

But things have changed in the past decade or so when our elected representatives forgot what got us to our elevated position in world development. They began to believe that big government was the answer rather than hard work and new ideas. The liberals in Congress for the past few decades have done more to destroy the system under which we grew than all the wars ever fought for freedom.

The pendulum has begun to swing back to the conservative side of the system and there is hope that American industrialization will once again begin to take hold as the dominant factor in this nation.

Isn't it time for a lot more US and a lot less ME? We can turn this nation around with the same fervor that pushed those early day wildcatters to seek out energy for a struggling industry. But the Independent Petroleum Association of America needs the support of all this industry if we hope to get government out of our business and back to doing what it was supposed to do. Let's all join in with the IPAA as we seek a better place for all of our people.

Use the coupon below to sign up a new member or increase your own support of the programs of this Association.

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Company _____

Address _____

City _____

State _____ Zip _____

Minimum annual new members dues are $200

I wish to increase my dues to $_____

NOW YOU CAN REMEDY NEW WELL REMEDIAL CEMENTING BEFORE YOU EVER CEMENT. DOWELL SPACERS AND WASHES.

A good primary cement job bonds your casing to the formation with a solid sheath of cement. The casing is protected, the producing formation is isolated, and interzonal communication is prevented.

So good mud removal is absolutely critical.

It can save you more than a remedial cementing job. It can save you time, money or lost production.

And since Dowell has been advancing cementing technology for over 30 years, you can be sure that we've got the custom-engineered Spacer and Wash packages to give you more efficient mud removal. Every time.

Spacers

Dowell offers a complete range of variable-density Spacers for oil- or water-base drilling fluids. They can be engineered to higher densities than muds, and lower densities than cement.

So you receive good compatibility with all cement slurries, even at high densities, in deep wells, with high temperatures and high-density muds.

And Dowell Spacers are available for any flow regime, so you can get effective mud removal at efficient pump rates. With excellent fluid-loss control to maintain constant flow properties during placement and to minimize formation damage.

DOWELL Spacers 1000 and 1001 are viscous, with excellent particle supporting abilities. Both can be engineered to at least 20 ppg. Spacer 1000 is for water-base mud removal applications, and Spacer 1001 is for oil-base applications.

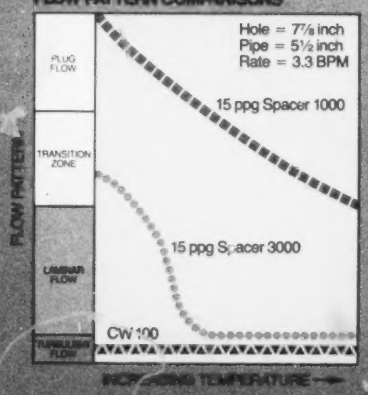
DOWELL Spacers 3000 and 3001 are the first spacers designed rheologically specifically for turbulent flow applications at practical pump rates. Yet this is achieved while being thick enough to support weighting agents. Both have high gelled consistencies at ambient temperatures, but become more fluid as they increase in temperature.

Spacer 3000 is for water-base mud removal applications, and Spacer 3001 is for oil-base applications. Both combine the cement compatibility of a Spacer with the effectiveness of turbulent flow. For maximum mud removal.

Washes

Dowell Washes are water-thin to achieve turbulent flow at very low pump rates. They contain Dowell formulated mud stripping surfactants to give you maximum-efficiency mud removal when high density

FLOW PATTERN COMPARISONS



fluids are not required to control the well.

DOWELL Chemical Wash 7 (CW-7) is for water-base mud removal applications, and Chemical Wash 100 (CW-100) has similar properties, with the added advantage of fluid-loss control.

DOWELL Chemical Wash 8 (CW-8) is for oil-base mud removal applications and Chemical Wash 101 (CW-101) offers fluid-loss control.

So the next time you need more effective, more efficient mud removal, call your Dowell representative.

We have the Spacers, the Washes and the engineering know-how to put them in a custom-designed package for maximum mud removal. The first time. So you can remedy new well remedial cementing, before you ever cement.

DOWELL

Dowell Division of
Dow Chemical U.S.A.,
Houston, Texas 77042.

An operating unit of
The Dow Chemical
Company.

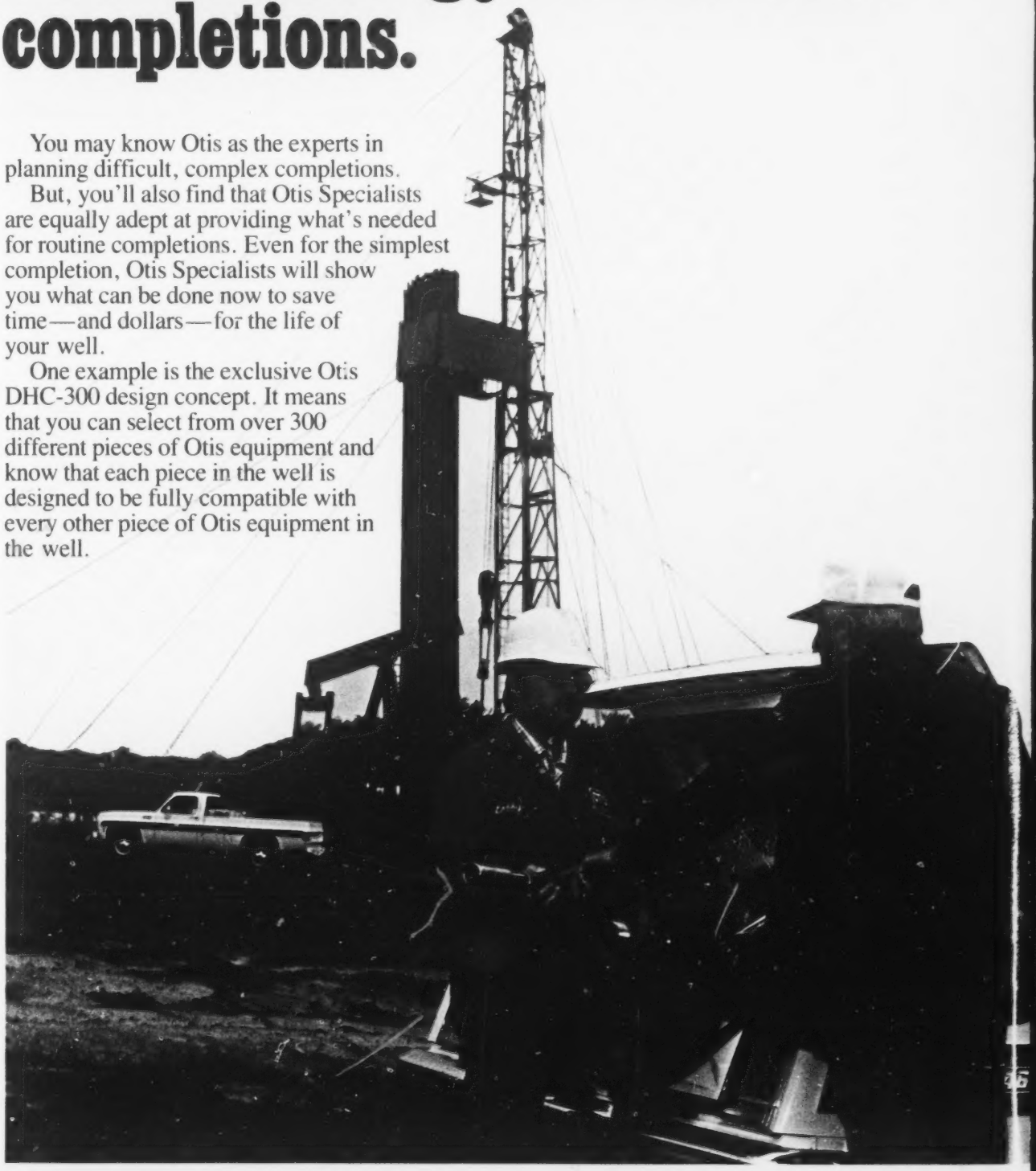
*TRADEMARK OF THE DOW CHEMICAL COMPANY

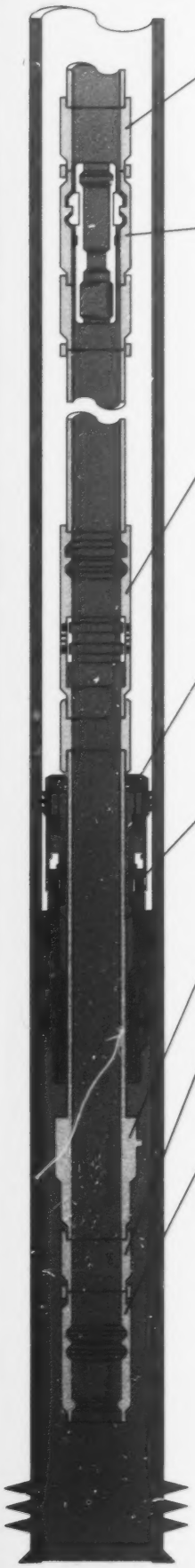
Minimize future maintenance problems when you rely on Otis technology for routine completions.

You may know Otis as the experts in planning difficult, complex completions.

But, you'll also find that Otis Specialists are equally adept at providing what's needed for routine completions. Even for the simplest completion, Otis Specialists will show you what can be done now to save time—and dollars—for the life of your well.

One example is the exclusive Otis DHC-300 design concept. It means that you can select from over 300 different pieces of Otis equipment and know that each piece in the well is designed to be fully compatible with every other piece of Otis equipment in the well.





Otis utility packers meet many needs. For many wells, the Type MO-2 Otis utility packer is the most appropriate choice. It's designed for wells where pressure from below is not expected to overcome tubing weight. In wells with higher differential pressures from above or below, you'll want the Type MH-2 Otis utility packer with extra-large holddown buttons.

Both Otis utility packers can be set, released, and reset in a single trip. That multiplies the savings because they can be used for testing and treating as well as for production.

Enhanced flexibility with Otis landing nipples. With Types X and R Otis universal landing nipples and mandrels, you can place as many nipples as desired in the tubing string to provide an unlimited number of positions for setting and locking Otis flow controls. As well conditions change, you can use Otis wireline techniques to economically change the position of the flow controls. And, you can change positions without the expense of killing the well. Otis recommends a no-go landing nipple at the bottom of the tubing string to plug and test tubing.

Otis also provides flow couplings and blast joints, essential to protecting tubing string above and below flow controls and opposite perforations.

The right flow controls for the job. Otis flow controls—ranging from plugs and chokes through Sliding Side Door® equipment to subsurface safety valves—are available in sizes and configurations to match virtually any combination of tubing size and well conditions.

Each control is manufactured to one of the industry's most exacting sets of quality control standards—Otis standards.

Contact your Otis representative. Your Otis Completion Specialist can show you how to get full benefit from the extensive Otis line of completion equipment. Not only during the completion, but also for the life of your well. That makes a good reason to make it a routine to call him when you begin completion planning.

OTIS

is totally committed to the life of your wells.

OTIS ENGINEERING CORPORATION/ A Halliburton Company

If You're In Business, Frost Can Make A Difference.

It takes hard work to make it in business. And it takes money. That's where a bank like Frost comes in.

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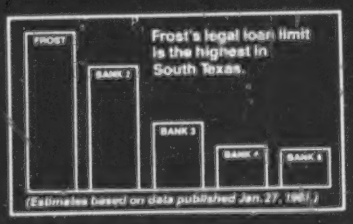

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United States Crude Oil Production—1971-1980

(Thousands of Barrels Daily)

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Florida	14.7	46.2	89.6	99.6	114.7	121.5	127.8	130.2	129.2	117.1
New York	3.1	2.8	2.6	2.5	2.4	2.3	2.3	2.3	2.3	2.3
Pennsylvania	10.4	9.4	9.0	9.5	9.0	8.3	7.4	7.9	7.9	9.5
Virginia	**	**	**	**	**	**	**	**	**	**
West Virginia	8.1	7.3	6.5	7.3	6.8	6.9	6.9	6.5	6.6	6.1
P.A.D. Dist. I	36.3	65.7	107.7	118.9	132.8	138.9	144.4	148.9	146.0	135.0
Illinois	107.1	95.3	84.0	75.5	71.4	71.8	70.2	64.0	59.7	62.7
Indiana	18.2	16.7	14.6	13.5	12.7	12.7	14.6	12.8	12.9	12.6
Kansas	215.2	201.5	181.5	169.0	161.9	160.4	157.5	155.0	156.2	164.4
Kentucky	29.3	26.5	23.8	21.5	20.7	20.4	18.0	15.7	15.1	16.2
Michigan	32.6	35.5	40.0	49.4	66.9	83.1	90.3	95.0	95.5	89.5
Nebraska	27.6	23.8	19.8	18.1	16.8	16.9	16.4	16.1	16.6	17.1
North Dakota	59.3	56.3	55.4	54.0	56.0	59.4	63.8	68.0	84.7	109.3
Ohio	22.7	25.6	24.1	24.9	26.2	27.3	28.4	30.6	32.8	34.2
Oklahoma	584.4	567.3	523.8	487.1	446.9	441.0	428.4	412.2	393.6	415.2
South Dakota	0.6	0.6	0.8	1.3	1.3	1.2	1.7	2.4	2.3	2.2
Other[1]	1.3	0.7	0.8	2.2	2.0	1.8	2.2	1.8	1.9	2.2
P.A.D. Dist. II	1,098.3	1,049.8	968.6	916.5	882.8	896.0	891.7	873.6	871.3	925.6
Alabama	21.5	27.2	32.0	36.5	36.9	40.2	50.0	54.3	52.5	59.9
Arkansas	50.0	50.6	49.4	45.3	44.2	49.4	55.3	55.7	51.7	49.8
Louisiana	2,436.7	2,436.7	2,278.1	2,020.0	1,783.1	1,657.1	1,542.2	1,459.6	1,341.6	1,275.9
Gulf	2,315.7	2,315.7	2,169.2	1,913.7	1,680.8	1,552.7	1,441.1	1,363.1	1,254.1	1,187.3
Other	124.4	121.0	108.9	106.3	102.3	104.4	101.1	96.5	87.5	88.6
Mississippi	175.5	166.9	153.7	139.1	127.7	125.9	117.9	115.1	102.3	99.8
New Mexico	324.4	302.0	276.7	270.4	260.5	251.7	239.0	228.4	218.2	206.1
Texas	3,350.5	3,556.5	3,547.0	3,457.9	3,347.8	3,250.0	3,117.5	2,942.6	2,789.3	2,664.5
P.A.D. Dist. III	6,539.4	6,539.9	6,336.9	5,969.2	5,600.2	5,374.4	5,121.9	4,855.7	4,555.6	4,356.0
Colorado	75.0	87.5	100.2	102.8	104.4	106.5	108.1	100.8	88.5	80.8
Montana	94.8	92.6	94.8	94.7	90.0	89.7	89.5	83.5	82.1	80.8
Utah	64.7	72.6	89.5	107.8	115.9	93.7	90.7	85.9	76.0	70.2
Wyoming	405.8	382.5	388.8	383.5	372.5	366.5	373.9	376.4	361.3	353.3
P.A.D. Dist. IV	640.3	635.2	673.3	688.8	682.7	656.4	662.2	646.6	607.9	585.1
Alaska	217.8	199.2	198.1	193.4	191.3	173.2	460.6	1,229.1	1,400.9	1,616.6
Arizona	3.4	2.7	2.2	2.0	1.7	1.4	1.2	1.1	1.3	1.1
California	982.1	948.2	920.8	885.0	882.7	890.8	957.8	951.2	965.1	974.4
Nevada	0.3	0.2	0.3	0.4	0.3	0.4	1.8	3.2	3.4	3.2
P.A.D. Dist. V	1,203.6	1,150.3	1,121.4	1,080.8	1,076.0	1,065.8	1,424.4	2,184.6	2,370.7	2,595.3
TOTAL U.S.	9,462.8	9,440.9	9,207.9	8,774.2	8,374.7	8,131.6	8,244.6	8,707.4	8,551.5	8,597.0

**Less than 100 barrels daily.
[1]Missouri and Tennessee.
Source: Energy Information Administration.

Estimated Natural Gas Value at the Wellhead — 1980

	$ per mcf
Alabama	2.140
Alaska	.850
Arizona	.750
Arkansas	1.277
California	2.020
Colorado	1.730
Florida	1.890
Illinois	2.150
Indiana	1.400
Kansas	1.075
Kentucky	1.265
Louisiana	1.445
Maryland	1.350
Michigan	2.050
Missouri	1.900
Mississippi	1.918
Montana	1.530
Nebraska	1.170
New Mexico	1.680
New York	1.700
North Dakota	1.600
Ohio	2.100
Oklahoma	1.435
Oregon	2.250
Pennsylvania	1.645
South Dakota	2.325
Tennessee	2.015
Texas	1.545
Utah	1.035
Virginia	2.000
West Virginia	1.370
Wyoming	1.450
Total U.S.	1.496

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Original painting by Margaret Meeks Ratchford

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Reflecting on the superb but often difficult achievements of the past gives us inspiration for even greater future accomplishments. For oil industry people the word "impossible" has always been nothing more than a challenge.

We are proud of serving the industry in many ways since 1871, in fruitful times as well as bad. Our challenge has been to be in the right place at the right time to help them strengthen America's energy independence.

We asked the help of the talented art students of the University of Tulsa in highlighting, decade by decade since we were founded, some of the more significant achievements of this magnificent industry with paint and canvas.

The result was published in the form of a unique oil industry history calendar. If you are with an energy-related company, it would give us pleasure to share larger prints, suitable for framing, of three selected paintings with you. Just write Mr. James L. Price on your company letterhead.

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On your next open hole logging job call Gearhart first; a lot of people do.

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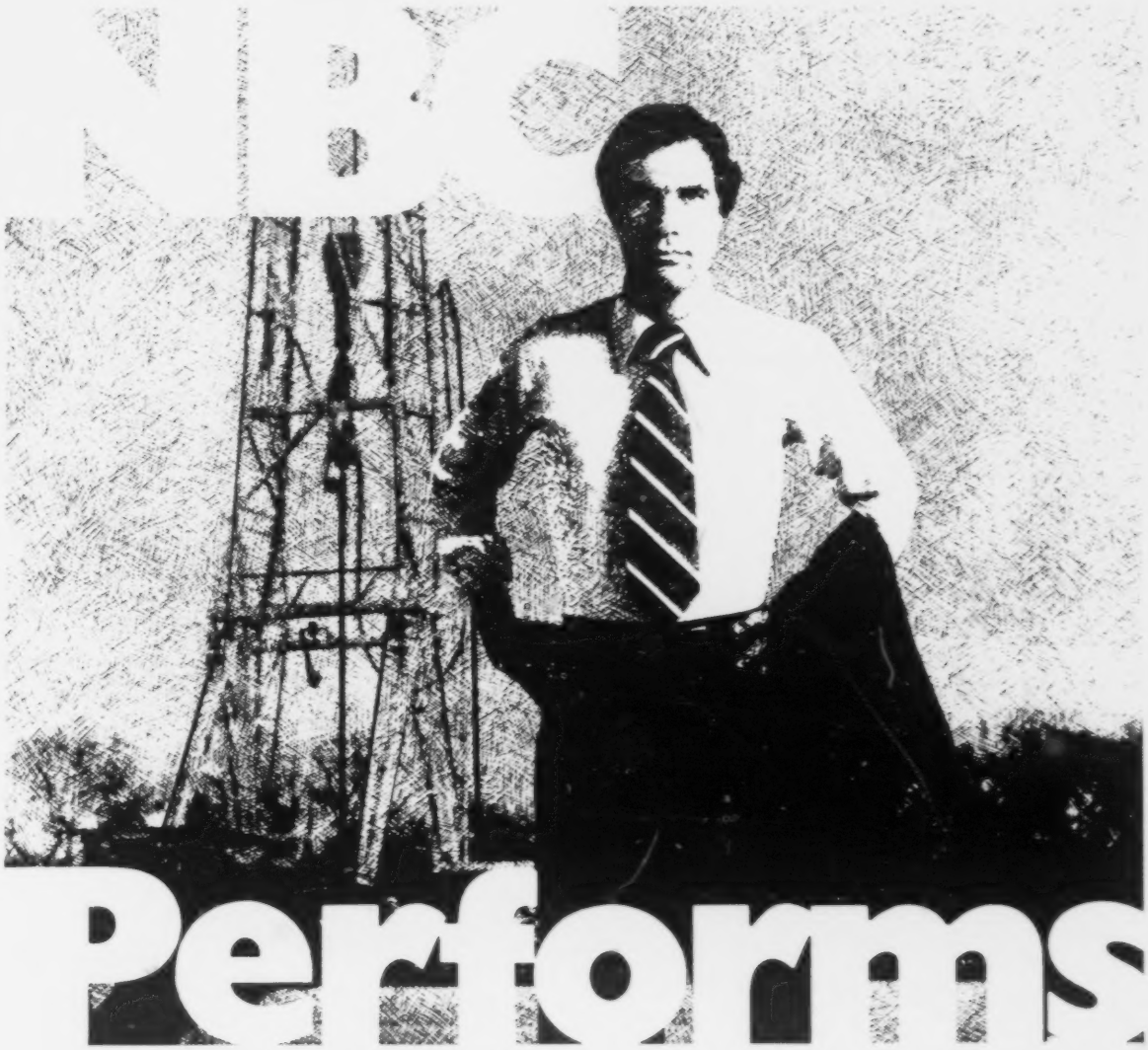

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If your bank seems to be too big or too busy for your business, come see NBC.
At NBC we leave the giant energy accounts to the giant banks.
We specialize in middle market business . . . companies like yours.
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Which saves time, money and frustration. NBC performs!
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U.S. Energy Consumption

	Total	Oil & Gas	Percent Oil & Gas
	Quadrillion BTU's		
1946	30.5	14.6	47.8
1947	33.0	15.9	48.2
1948	33.2	17.0	51.2
1949	31.4	17.4	55.4
1950	33.9	19.6	57.9
1951	36.7	22.1	60.2
1952	36.4	23.1	63.4
1953	37.5	24.3	64.7
1954	36.2	24.7	68.2
1955	39.7	26.8	67.4
1956	41.7	28.5	68.3
1957	41.7	29.0	69.5
1958	41.7	30.2	72.4
1959	43.1	31.7	72.9
1960	44.5	32.8	73.7
1961	45.3	33.7	73.9
1962	47.4	35.4	74.1
1963	49.3	36.8	74.0
1964	51.2	38.0	73.8
1965	53.3	39.3	73.8
1966	56.4	41.8	74.1
1967	58.2	43.6	74.8
1968	61.7	46.6	75.5
1969	64.9	49.4	76.1
1970	67.1	51.6	76.8
1971	68.3	53.0	77.6
1972	71.6	55.7	77.8
1973	74.6	57.3	76.8
1974	72.8	55.2	75.8
1975	70.7	52.7	74.5
1976	74.5	55.5	74.5
1977	76.3	57.1	74.8
1978	78.2	58.0	74.2
1979	79.0	57.8	73.2
1980	76.2	54.7	71.8

Source: U.S. Department of Energy

U.S. Drilling Costs — 1979

	Oil Wells	Gas Wells	Dry Holes	Total Wells
Wells Drilled	19,243	14,079	25,201	48,523
Footage Drilled (000)	80,261	77,340	79,911	237,512
Total Cost (millions)	$ 4,679	$ 6,238	$ 5,162	$ 16,079
Average Depth (feet)	4,170	5,493	5,256	4,894
Average Cost per Well	$243,130	443,080	$339,598	$331,367
Average Cost per Foot	$ 58.29	$ 80.66	$ 64.60	$ 67.70

Note: Includes all costs incurred through "Christmastree."
Source: Joint Association Survey

This is the toughest, hardest working, most economical drilling rig money can buy.

It's made by Jaswell Drill Corporation, a world leader in manufacturing self-contained, truck-mounted rotary drilling rigs.

Tough? It's built rugged, to perform better. Even under the most demanding conditions. Every part of a Jaswell rig, from its air compressor to its hydraulic system and rotary drive, can take the punishment. That's tough.

Hard working? One customer drilled 84 wells in 84 days without a breakdown. Another drilled almost 1500 hours with practically no downtime. That's hard working.

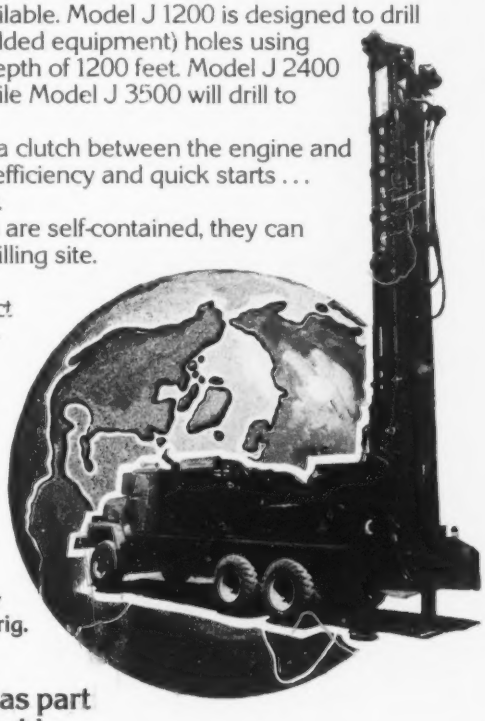
Economical? A Pennsylvania driller drilled over 150,000 punishing feet with his Jaswell rig and spent just $135 in repairs. That's economical.

Three models are available. Model J 1200 is designed to drill 6-inch to 24-inch (with added equipment) holes using 4½-inch drill steel to a depth of 1200 feet. Model J 2400 can drill to 2400 feet, while Model J 3500 will drill to 3500 feet.

Every Jaswell rig has a clutch between the engine and the compressor for fuel efficiency and quick starts . . . even in subzero weather.

And since Jaswell rigs are self-contained, they can travel to any potential drilling site. Easily and quickly.

To get the facts contact your nearest Jaswell distributor or write or call Jaswell Drill Corporation, Sanderson Road, Greenville, R.I. 02828, USA, (401) 949-3700, Telex 927506.



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You can't buy a better drilling rig.

Distributors wanted as part of Jaswell's worldwide sales network

Estimated Proved World Reserves of Crude Oil as of Jan. 1
(Million Barrels)

	United States	Canada	Latin America	Total West. Hemis.	Middle East	Africa	Other East. Hemis.	Total East. Hemis.	Total Free World
1962	31,758	4,174	24,706	60,638	188,204	9,709	12,604	210,517	271,155
1963	31,389	4,481	24,225	60,095	193,975	12,346	13,122	219,443	279,53[illegible]
1964	30,970	4,881	24,305	60,156	207,368	16,375	13,547	237,290	297,446
1965	30,990	6,178	25,525	62,693	212,180	19,396	13,649	245,225	307,918
1966	31,352	6,711	25,171	63,234	215,360	23,049	13,094	251,503	314,737
1967	31,452	6,792	27,100	66,344	235,615	32,355	13,733	281,703	348,047
1968	31,377	8,169	26,907	66,453	249,209	42,285	13,833	305,427	371,780
1969	30,707	8,382	28,783	67,872	270,760	44,569	15,657	330,986	398,858
1970	29,632	8,619	29,180	67,431	333,506	54,680	14,917	403,103	470,534
1971	39,001	8,559	26,185	73,745	344,575	74,757	18,117	437,449	511,194
1972	38,063	8,333	31,559	77,955	367,386	58,886	29,827	456,099	534,054
1973	36,339	8,020	32,602	76,961	355,852	106,402	27,004	489,258	566,219
1974	35,300	7,674	31,640	74,614	350,162	67,304	31,626	449,092	523,706
1975	34,250	7,171	40,578	81,999	403,858	68,299	46,861	519,018	601,017
1976	32,682	6,653	35,368	74,703	368,411	65,085	46,722	480,218	554,921
1977	30,942	6,257	29,609	66,808	367,681	60,570	43,930	472,181	538,989
1978	29,486	5,971	40,370	75,827	366,166	59,200	46,612	471,978	547,805
1979	27,804	6,860	41,246	75,910	369,996	57,892	43,973	471,861	547,771
1980	27,051	6,800	56,473	[illegible]0,324	361,947	57,072	42,831	461,850	552,174
1981	26,400	6,400	69,490	10[illegible],290	362,071	55,148	42,716	459,935	562,225

Source: U.S. – A.P.I. except 1981 from Oil & Gas Journal
All other from Oil & Gas Journal

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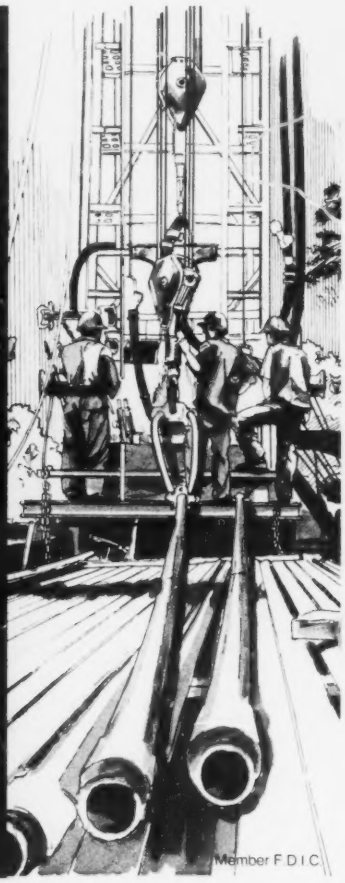

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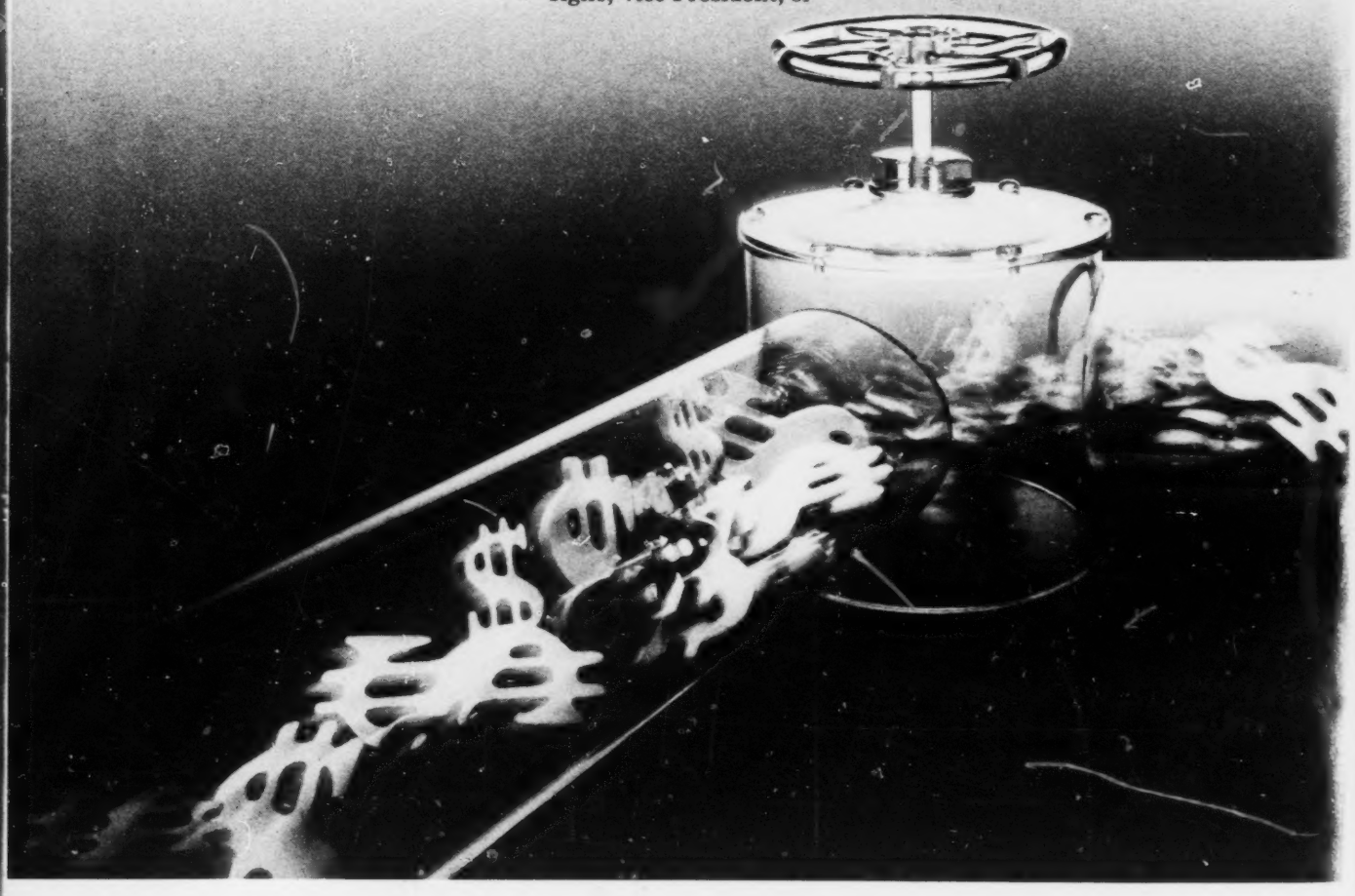

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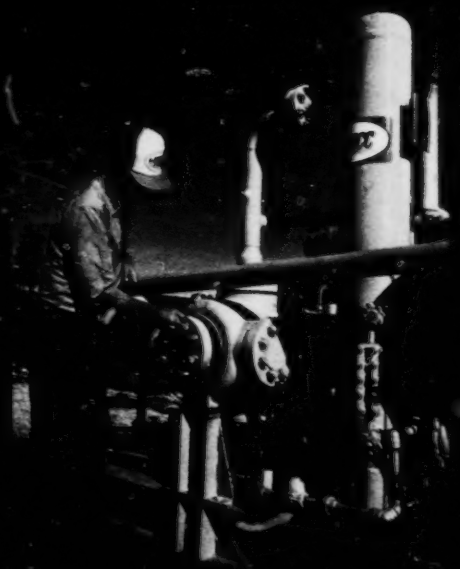

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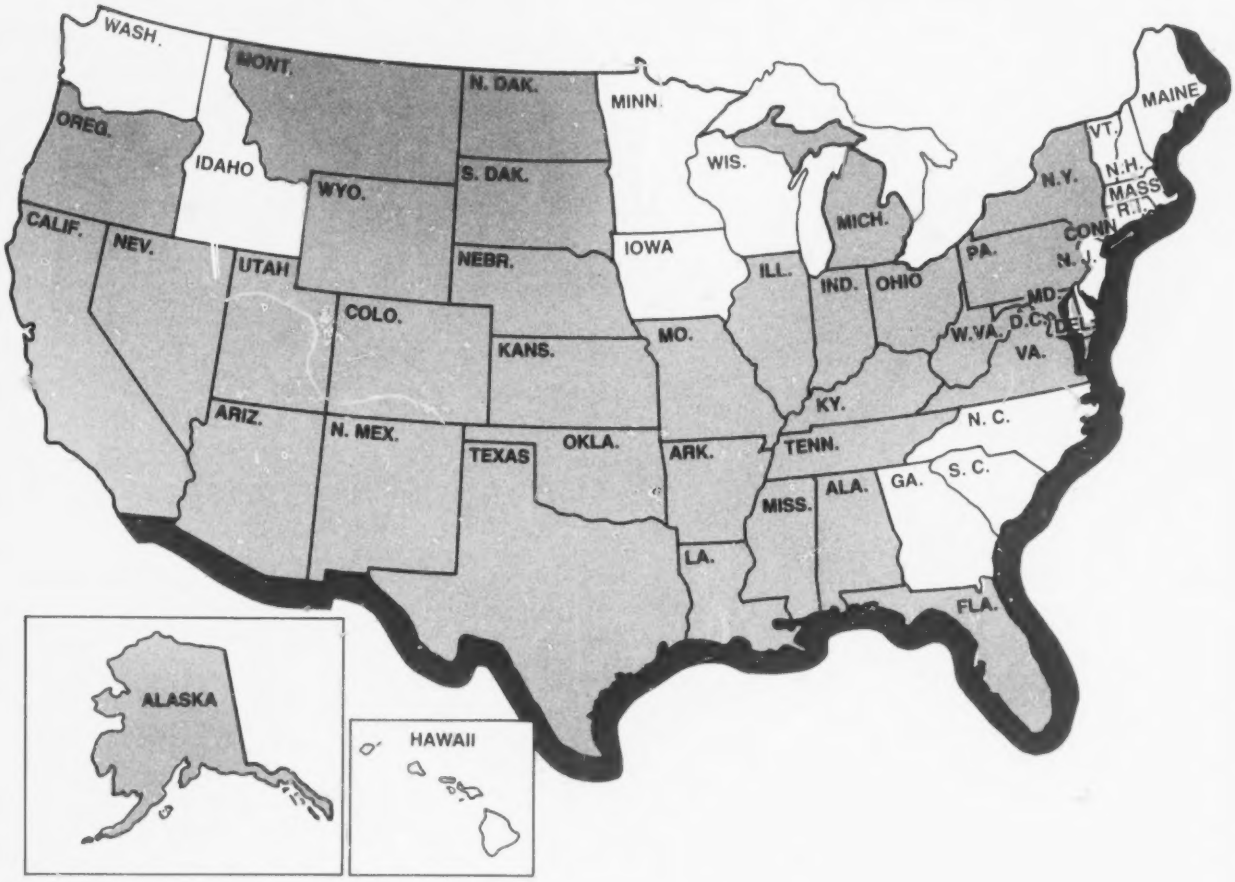
The Oil Producing Industry in the UNITED STATES



States with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of States	50
2.	Number of States with oil and/or gas production	33
3.	Total land area of State (acres)	2,263,587,200
4.	Area proved productive of oil and/or gas (acres)	58,144,418
5.	Estimated non-productive area leased January 1, 1981 (acres)	421,387,114
6.	Percent of total land area productive or leased	21.2
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$442,535,606
8.	Average field price of crude oil per barrel in 1980	$ 21.19
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 39,052,232
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 24,112,454
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 63,164,686
12.	Percent petroleum value to total all minerals	62.3%
13.	Principal mineral products in order of value:	
	1st ..... Crude Petroleum	
	2nd ..... Natural Gas	
	3rd ..... Coal	
14.	Number of employees engaged in crude oil and natural gas production	558,680
15.	First year of production of crude oil	1859
	natural gas	1881
16.	First recorded production of crude oil (barrels) 1859	2,000
	natural gas (Mcf) 1882	600,000
17.	Geophysical Activity—Crew months worked in 1980	4,962

Production & Reserves

18.	Year of largest production (crude oil)	1970
19.	Crude oil produced in year of largest production (barrels)	3,517,450,000
20.	Percent of crude oil produced by stripper wells	12.6%

21. Number of producing wells at end of 1980: Crude Oil 543,510
Gas & Condensate 165,683
Total 709,193

22. Average daily production of crude oil per well at end of 1980 ..... 15.9

23. Percent of wells pumping or on artificial lift 93.6%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	8,244,562	1,617,685	9,862,247
1978	8,707,441	1,567,359	10,274,800
1979	8,551,534	1,583,625	10,135,159
1980	8,597,046	1,563,300	10,160,346

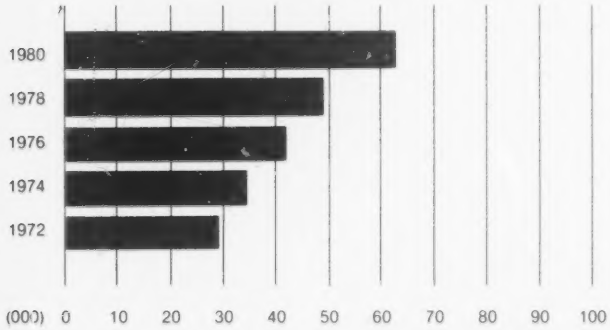
25. Production and new reserves found in 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	1,410	570	1,980	12,221
Estimated Production	2,955	727	3,682	19,257
Net Change in Reserves	-1,545	-157	-1,702	−7,036

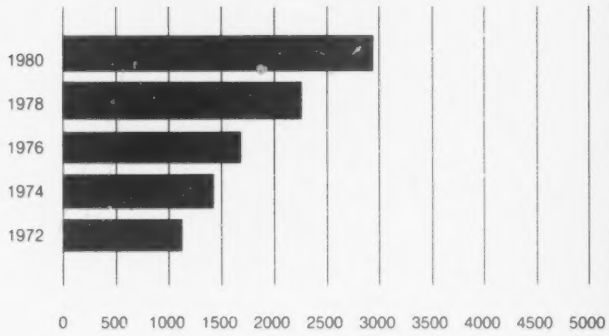
26. Production and new reserves found all time to December 31, 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	154,473	25,798	180,271	778,029
Total Production	124,663	19,183	143,846	577,032
Proved Reserves Dec. 31, 1979	29,810	6,615	36,425	200,997

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 2,911

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 26,518

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 31,441

30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	1,605	13.4
Gas Wells	1,969	16.5
Dry Wells	8,342	70.0
Service Wells	0	0
Total Wells	11,916	100.0
Average Depth per well	5,870	
Total Footage	69,948,320	
Development Wells		
Oil Wells	25,421	50.2
Gas Wells	13,761	27.2
Dry Wells	9,747	19.2
Service Wells	1,617	3.1
Total Wells	50,546	100.0
Average Depth per well	4,332	
Total Footage	218,988,173	
Total Wells		
Oil Wells	27,026	43.2
Gas Wells	15,730	25.1
Dry Wells	18,089	28.9
Service Wells	1,617	2.5
Total Wells	62,462	100.0
Average Depth per well	4,626	
Total Footage	288,936,493	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	1,511,794	58.4
Gas	280,655	10.8
Dry	795,144	30.7
Total	2,587,593	100.0

The Oil Producing Industry in ALABAMA

Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	67
2.	Number of Counties with oil and/or gas production	12
3.	Total land area of State (acres)	32,453,120
4.	Area proved productive of oil and/or gas (acres)	183,035
5.	Estimated non-productive area leased January 1, 1981 (acres)	8,802,050
6.	Percent of total land area productive or leased	27.6
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 1,852,589
8.	Average field price of crude oil per barrel in 1980	$ 20.55
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 450,270
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 227,354
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 677,624
12.	Percent petroleum value to total all minerals	27.9%
13.	Principal mineral products in order of value:	
	1st	Coal
	2nd	Crude Petroleum
	3rd	Natural Gas
14.	Number of employees engaged in crude oil and natural gas production	1,716
15.	First year of production of crude oil	1944
	natural gas	1904
16.	First recorded production of crude oil (barrels) 1944	43,000
	natural gas (Mcf) 1953	5,000
17.	Geophysical Activity—Crew months worked in 1980	126

Production & Reserves

18.	Year of largest production (crude oil)	1980
19.	Crude oil produced in year of largest production (barrels)	21,911,000
20.	Percent of crude oil produced by stripper wells	0.7%

21. Number of producing wells at end of 1980: Crude Oil 669
Gas & Condensate 262
Total 931

22. Average daily production of crude oil per well at end of 1980 ..... 86.4

23. Percent of wells pumping or on artificial lift 91.4%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	50,005	1,180*	51,815
1978	54,326	3,011*	57,337
1979	52,496	9,588*	62,130
1980	59,866	9,400*	69,266

25. Production and new reserves found in 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	-19 ‡	51	32	184
Estimated Production	10	10	20	46
Net Change in Reserves	-29	41	12	138

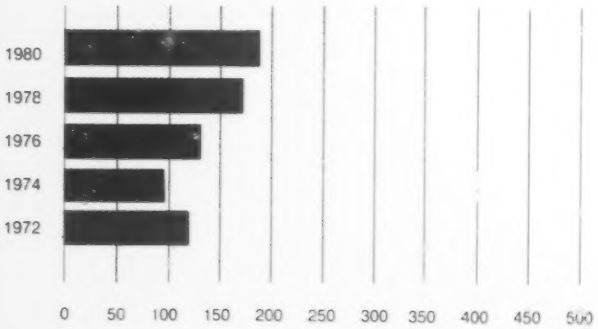
‡Downward Revision of Previous Estimate

26. Production and new reserves found all time to December 31, 1979:

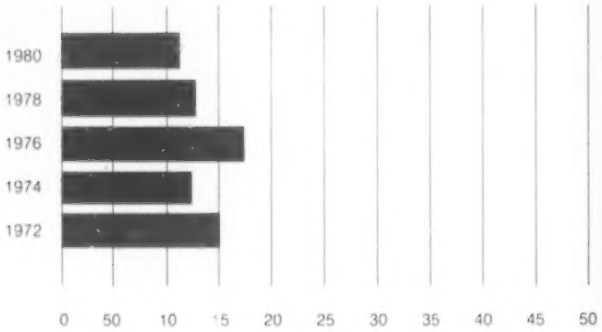
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	254	259	513	897
Total Production	209	46	255	245
Proved Reserves Dec. 31, 1979	45	213	258	652

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 11

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 20,926

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 21,113

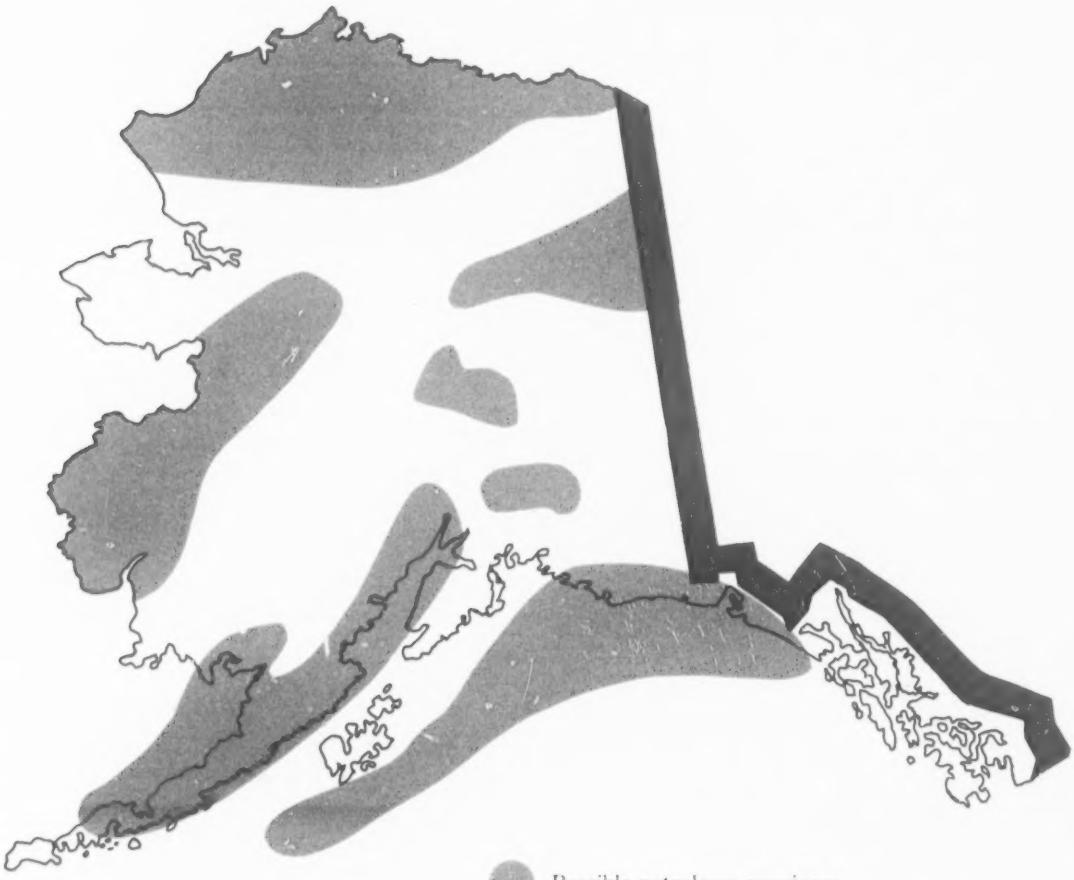
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	2	2.5
Gas Wells	9	11.3
Dry Wells	69	86.2
Service Wells	0	0
Total Wells	80	100.0
Average Depth per well	8,083	
Total Footage	646,657	
Development Wells		
Oil Wells	18	16.5
Gas Wells	52	47.7
Dry Wells	39	35.8
Service Wells	0	0
Total Wells	109	100.0
Average Depth per well	5,866	
Total Footage	639,408	
Total Wells		
Oil Wells	20	10.6
Gas Wells	61	32.3
Dry Wells	108	57.1
Service Wells	0	0
Total Wells	189	100.0
Average Depth per well	6,804	
Total Footage	1,286,065	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	763	25.6
Gas	398	13.4
Dry	1,808	60.8
Total	2,969	100.0

The Oil Producing Industry in ALASKA



Possible petroleum provinces

Extent & Economic Value of Industry

1.	Number of Counties	Not Applicable
2.	Number of Counties with oil and/or gas production	Not Applicable
3.	Total land area of State (acres)	362,516,480
4.	Area proved productive of oil and/or gas (acres)	442,540
5.	Estimated non-productive area leased January 1, 1981 (acres)	3,085,000
6.	Percent of total land area productive or leased	0.9
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 11,319,324
8.	Average field price of crude oil per barrel in 1980	$ 16.55
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 9,792,370
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 191,813
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 9,984,183
12.	Percent petroleum value to total all minerals	96.7%
13.	Principal mineral products in order of value:	
	1st	Crude Petroleum
	2nd	Natural Gas
	3rd	Sand & Gravel
14.	Number of employees engaged in crude oil and natural gas production	5,870
15.	First year of production of crude oil	1905
	natural gas	1945
16.	First recorded production of crude oil (barrels) 1921	10
	natural gas (Mcf) 1959	135,000
17.	Geophysical Activity--Crew months worked in 1980	37

Production & Reserves

18.	Year of largest production (crude oil)	1980
19.	Crude oil produced in year of largest production (barrels)	591,684,000
20.	Percent of crude oil produced by stripper wells	Not Available

21. Number of producing wells at end of 1980: Crude Oil 642
Gas & Condensate 54
Total 696

22. Average daily production of crude oil per well at end of 1980 ..... 2,517.8

23. Percent of wells pumping or on artificial lift 35.8%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	463,564	2,375*	465,939
1978	1,229,096	2,515*	1,231,611
1979	1,400,918	1,644*	1,402,562
1980	1,616,623	1,300*	1,617,923

25. Production and new reserves found in 1979:

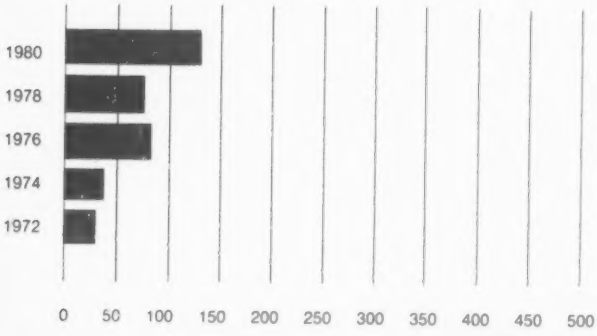
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	3	1	4	442
Estimated Production	512	1	513	228
Net Change in Reserves	-509	0	-509	214

26. Production and new reserves found all time to December 31, 1979:

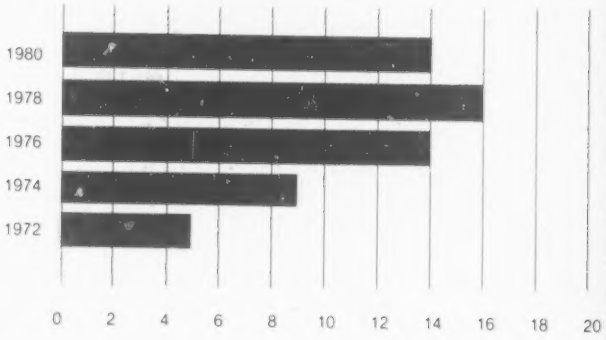
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	10,750	221	10,971	34,207
Total Production	1,875	8	1,883	1,918
Proved Reserves Dec. 31, 1979	8,875	213	9,088	32,259

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 14

28. Deepest producing well drilled to January 1, 1981 ..... *Oil* 14,996

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 20,147

30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	0	0
Gas Wells	0	0
Dry Wells	14	100.0
Service Wells	0	0
Total Wells	14	100.0
Average Depth per well	10,455	
Total Footage	146,368	
Development Wells		
Oil Wells	112	93.3
Gas Wells	3	2.5
Dry Wells	1	0.8
Service Wells	4	3.3
Total Wells	120	100.0
Average Depth per well	10,180	
Total Footage	1,221,578	
Total Wells		
Oil Wells	112	83.5
Gas Wells	3	2.2
Dry Wells	15	44.1
Service Wells	4	11.7
Total Wells	134	100.0
Average Depth per well	10,209	
Total Footage	1,367,946	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	765	59.0
Gas	100	7.7
Dry	431	33.3
Total	1,296	100.0

The Oil Producing Industry in ARIZONA

Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	14
2.	Number of Counties with oil and/or gas production	1
3.	Total land area of State (acres)	72,586,880
4.	Area proved productive of oil and/or gas (acres)	5,400
5.	Estimated non-productive area leased January 1, 1981 (acres)	12,000,000
6.	Percent of total land area productive or leased	16.5
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 60,201
8.	Average field price of crude oil per barrel in 1980	$ 12.45
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 4,965
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 184
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 5,149
12.	Percent petroleum value to total all minerals	0.2%
13.	Principal mineral products in order of value:	
	1st	Copper
	2nd	Coal
	3rd	Molybdenum
14.	Number of employees engaged in crude oil and natural gas production	157
15.	First year of production of crude oil	1954
	natural gas	1955
16.	First recorded production of crude oil (barrels) 1958	12,000
	natural gas (Mcf) 1958	36,000
17.	Geophysical Activity—Crew months worked in 1980	35

Production & Reserves

18.	Year of largest production (crude oil)	1968
19.	Crude oil produced in year of largest production (barrels)	3,370,000
20.	Percent of crude oil produced by stripper wells	0.8%

21. Number of producing wells at end of 1980: Crude Oil 32
Gas & Condensate 0
Total 32

22. Average daily production of crude oil per well at end of 1980 ..... 38.3

23. Percent of wells pumping or on artificial lift 100.0%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	1,170	0	1,170
1978	1,145	0	1,145
1979	1,293	0	1,293
1980	1,090	0	1,090

25. Production and new reserves found in 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	-.5 ‡	0	-.5 ‡	0
Estimated Production	.5	0	.5	0
Net Change in Reserves	-1.0	0	-1.0	0

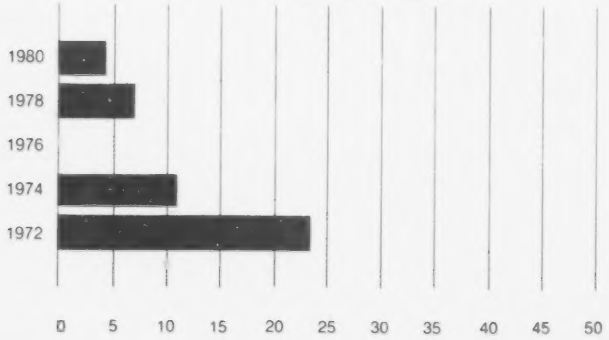
26. Production and new reserves found all time to December 31, 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	24.5	0	24.5	62.2
Total Production	17.5	0	17.5	17.2
Proved Reserves Dec. 31, 1979	70*	0	70*	45.0

‡Downward Revision of Previous Estimate

*Estimated

*** TOTAL WELLS DRILLED**



ACREAGE UNDER LEASE FOR OIL AND GAS

Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 1

28. Deepest producing well drilled to January 1, 1981 ..... *Oil* 6,793

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 18,013

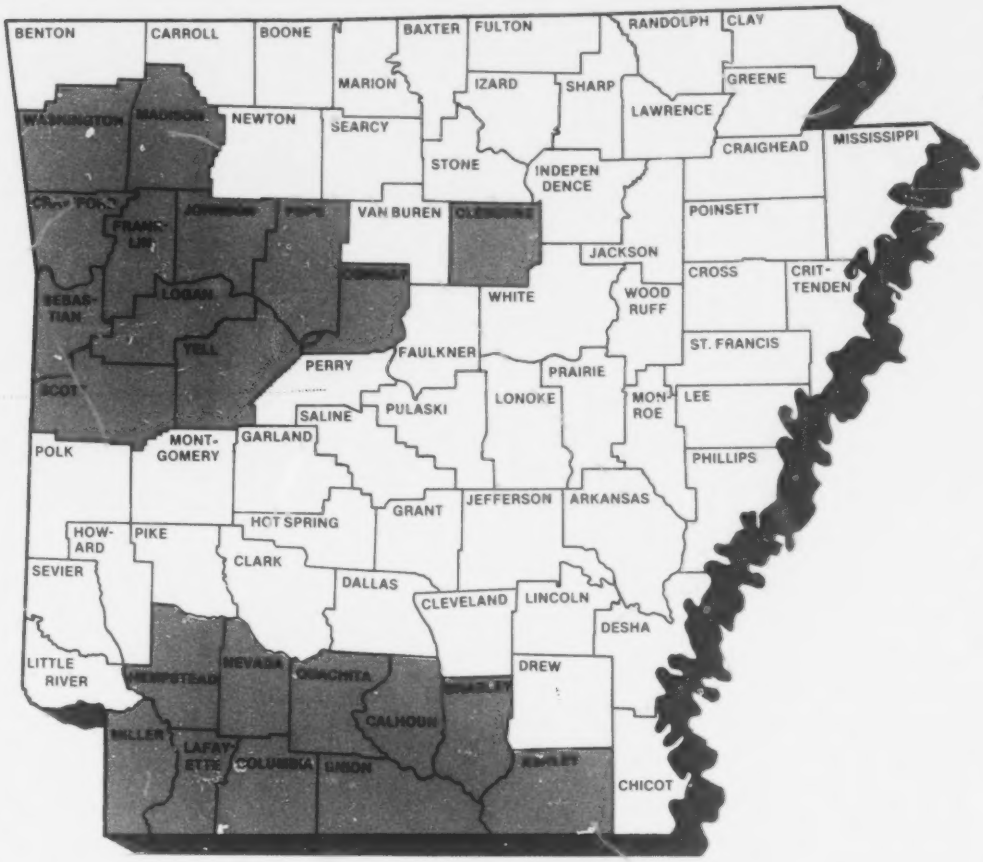
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	0	0
Gas Wells	0	0
Dry Wells	4	100.0
Service Wells	0	0
Total Wells	4	100.0
Average Depth per well	1,746	
Total Footage	6,983	
Development Wells		
Oil Wells	0	0
Gas Wells	0	0
Dry Wells	0	0
Service Wells	0	0
Total Wells	0	0
Average Depth per well	0	
Total Footage	0	
Total Wells		
Oil Wells	0	0
Gas Wells	0	0
Dry Wells	4	100.0
Service Wells	0	0
Total Wells	4	100.0
Average Depth per well	1,746	
Total Footage	6,983	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	46	10.9
Gas	34	8.1
Dry	341	81.0
Total	421	100.0

The Oil Producing Industry in ARKANSAS



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	75
2.	Number of Counties with oil and/or gas production	22
3.	Total land area of State (acres)	33,244,800
4.	Area proved productive of oil and/or gas (acres)	1,025,200
5.	Estimated non-productive area leased January 1, 1981 (acres)	8,107,500
6.	Percent of total land area productive or leased	27.5
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 4,102,122
8.	Average field price of crude oil per barrel in 1980	$ 24.25
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 441,595
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 142,723
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 584,318
12.	Percent petroleum value to total all minerals	58.2%
13.	Principal mineral products in order of value: 1st ..... Crude Petroleum; 2nd ..... Natural Gas; 3rd ..... Crushed Stone	
14.	Number of employees engaged in crude oil and natural gas production	3,247
15.	First year of production of crude oil	1921
	natural gas	1889
16.	First recorded production of crude oil (barrels) 1921	10,473,000
	natural gas (Mcf) 1906	21
17.	Geophysical Activity—Crew months worked in 1980	37

Production & Reserves

18.	Year of largest production (crude oil)	1925
19.	Crude oil produced in year of largest production (barrels)	77,398,000
20.	Percent of crude oil produced by stripper wells	38.3%

21. Number of producing wells at end of 1980: Crude Oil 8,104
Gas & Condensate 1,188
Total 9,292

22. Average daily production of crude oil per well at end of 1980 ..... 6.4

23. Percent of wells pumping or on artificial lift 98.2%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	55,348	1,520	56,868
1978	55,696	1,564	57,260
1979	51,696	2,740*	54,430
1980	49,754	3,000*	52,754

25. Production and new reserves found in 1979:

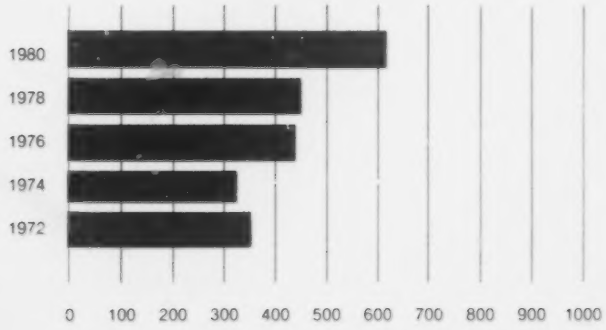
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	13	2	15	122
Estimated Production	17	1	18	100
Net Change in Reserves	-4	1	-3	22

26. Production and new reserves found all time to December 31, 1979:

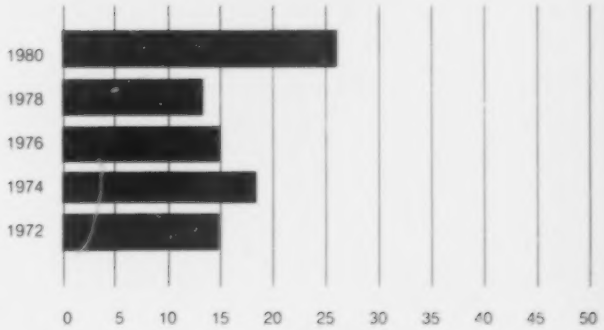
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	1,592	91	1,683	5,196
Total Production	1,485	74	1,559	3,493
Proved Reserves Dec. 31, 1979	107	17	124	1,703

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 27

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 11,195

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 17,349

30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	8	7.2
Gas Wells	5	4.5
Dry Wells	98	88.3
Service Wells	0	0
Total Wells	111	100.0
Average Depth per well	5,342	
Total Footage	592,964	
Development Wells		
Oil Wells	199	39.7
Gas Wells	116	23.2
Dry Wells	181	36.2
Service Wells	5	0.9
Total Wells	501	100.0
Average Depth per well	5,197	
Total Footage	2,603,893	
Total Wells		
Oil Wells	207	33.8
Gas Wells	121	19.8
Dry Wells	279	45.6
Service Wells	5	0.8
Total Wells	612	100.0
Average Depth per well	5,224	
Total Footage	3,196,857	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	15,936	55.2
Gas	2,261	7.9
Dry	10,655	36.9
Total	28,852	100.0

The Oil Producing Industry in CALIFORNIA

Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	58
2.	Number of Counties with oil and/or gas production	29
3.	Total land area of State (acres)	100,071,040
4.	Area proved productive of oil and/or gas (acres)	516,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	3,590,000
6.	Percent of total land area productive or leased	4.1
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 52,356,361
8.	Average field price of crude oil per barrel in 1980	$ 22.95
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 8,184,980
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 532,323
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 8,717,303
12.	Percent petroleum value to total all minerals	76.3%
13.	Principal mineral products in order of value:	
	1st ..... Crude Petroleum	
	2nd ..... Portland Cement	
	3rd ..... Natural Gas	
14.	Number of employees engaged in crude oil and natural gas production	32,745
15.	First year of production of crude oil	1861
	natural gas	1889
16.	First recorded production of crude oil (barrels) 1876	12,000
	natural gas (Mcf) 1906	153,000
17.	Geophysical Activity—Crew months worked in 1980	157

Production & Reserves

18.	Year of largest production (crude oil)	1968
19.	Crude oil produced in year of largest production (barrels)	375,496,000
20.	Percent of crude oil produced by stripper wells	12.9%

21. Number of producing wells at end of 1980: Crude Oil 45,591
Gas & Condensate 905
Total 46,496

22. Average daily production of crude oil per well at end of 1980 ..... 20.7

23. Percent of wells pumping or on artificial lift 96.3%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	957,833	22,215*	980,048
1978	951,181	21,663*	972,844
1979	965,118	23,014*	988,132
1980	974,437	19,500*	993,937

25. Production and new reserves found in 1979:

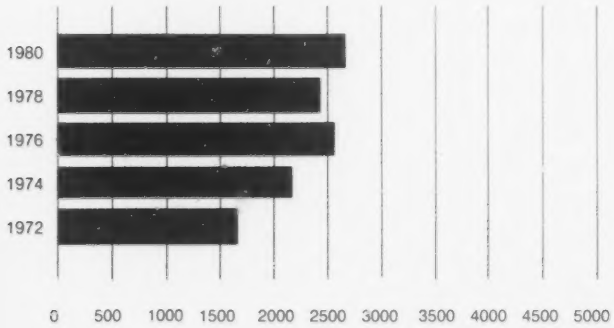
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	641	8	649	719
Estimated Production	350	9	359	352
Net Change in Reserves	291	-1	290	367

26. Production and new reserves found all time to December 31, 1979:

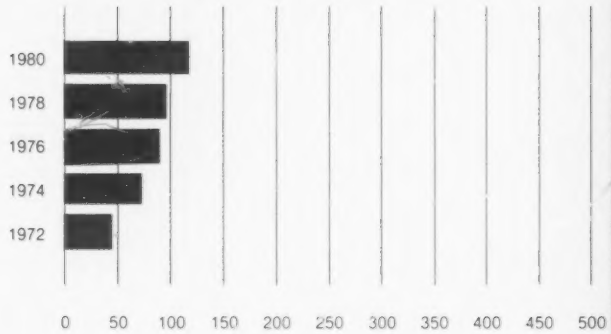
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	23,696	1,247	24,943	33,559
Total Production	18,431	1,136	19,567	28,537
Proved Reserves Dec. 31, 1979	5,265	111	5,376	5,022

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 120

28. Deepest producing well drilled to January 1, 1981 ..... *Oil* 18,060

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 22,711

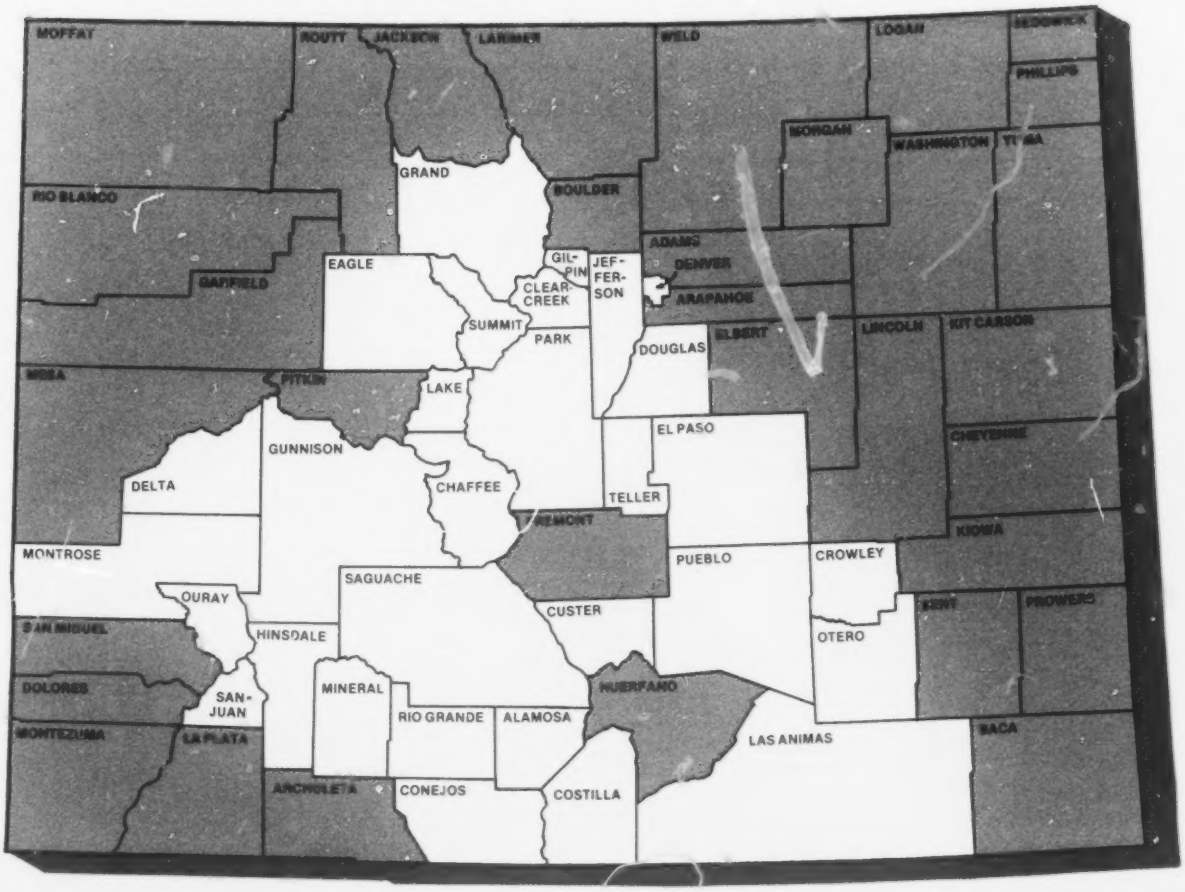
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	90	22.0
Gas Wells	45	11.0
Dry Wells	275	67.0
Service Wells	0	0
Total Wells	410	100.0
Average Depth per well	6,246	
Total Footage	2,560,985	
Development Wells		
Oil Wells	1,732	77.0
Gas Wells	32	1.4
Dry Wells	65	2.9
Service Wells	420	18.7
Total Wells	2,249	100.0
Average Depth per well	2,138	
Total Footage	4,807,743	
Total Wells		
Oil Wells	1,822	68.5
Gas Wells	77	2.9
Dry Wells	340	12.8
Service Wells	420	15.8
Total Wells	2,659	100.0
Average Depth per well	2,771	
Total Footage	7,368,728	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	93,450	77.3
Gas	2,733	2.3
Dry	24,749	20.4
Total	120,932	100.0

The Oil Producing Industry in COLORADO



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	63
2.	Number of Counties with oil and/or gas production	33
3.	Total land area of State (acres)	66,410,240
4.	Area proved productive of oil and/or gas (acres)	1,103,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	30,706,000
6.	Percent of total land area productive or leased	47.8
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 5,737,437
8.	Average field price of crude oil per barrel in 1980	$ 22.98
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 679,405
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 321,500
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 1,000,905
12.	Percent petroleum value to total all minerals	44.9%
13.	Principal mineral products in order of value: 1st ..... Crude Petroleum; 2nd ..... Coal; 3rd ..... Natural Gas	
14.	Number of employees engaged in crude oil and natural gas production	18,064
15.	First year of production of crude oil	1862
	natural gas	1893
16.	First recorded production of crude oil (barrels) 1862	50
	natural gas (Mcf) 1906	23
17.	Geophysical Activity—Crew months worked in 1980	87

Production & Reserves

18.	Year of largest production (crude oil)	1956
19.	Crude oil produced in year of largest production (barrels)	58,156,000
20.	Percent of crude oil produced by stripper wells	6.0%

21. Number of producing wells at end of 1980: Crude Oil 3,490
Gas & Condensate 2,650
Total 6,140

22. Average daily production of crude oil per well at end of 1980 ..... 23.8

23. Percent of wells pumping or on artificial lift 94.6%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	108,110	25,701	133,811
1978	100,814	24,477	125,291
1979	88,559	25,205*	113,764
1980	80,779	26,000*	106,779

25. Production and new reserves found in 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	-4 ‡	28	24	-1
Estimated Production	31	11	42	156
Net Change in Reserves	-35	17	-18	-157

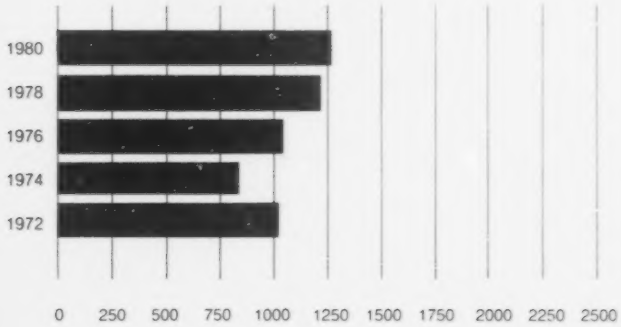
26. Production and new reserves found all time to December 31, 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	1,418	284	1,702	5,942
Total Production	1,259	107	1,366	3,334
Proved Reserves Dec. 31, 1979	159	177	336	2,608

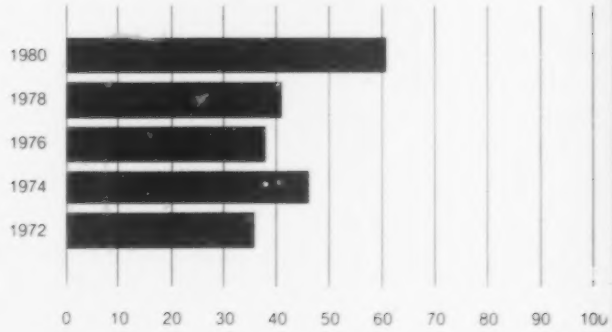
*Estimated

‡Downward Revision of Previous Estimate

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 61

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 17,632

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 19,710

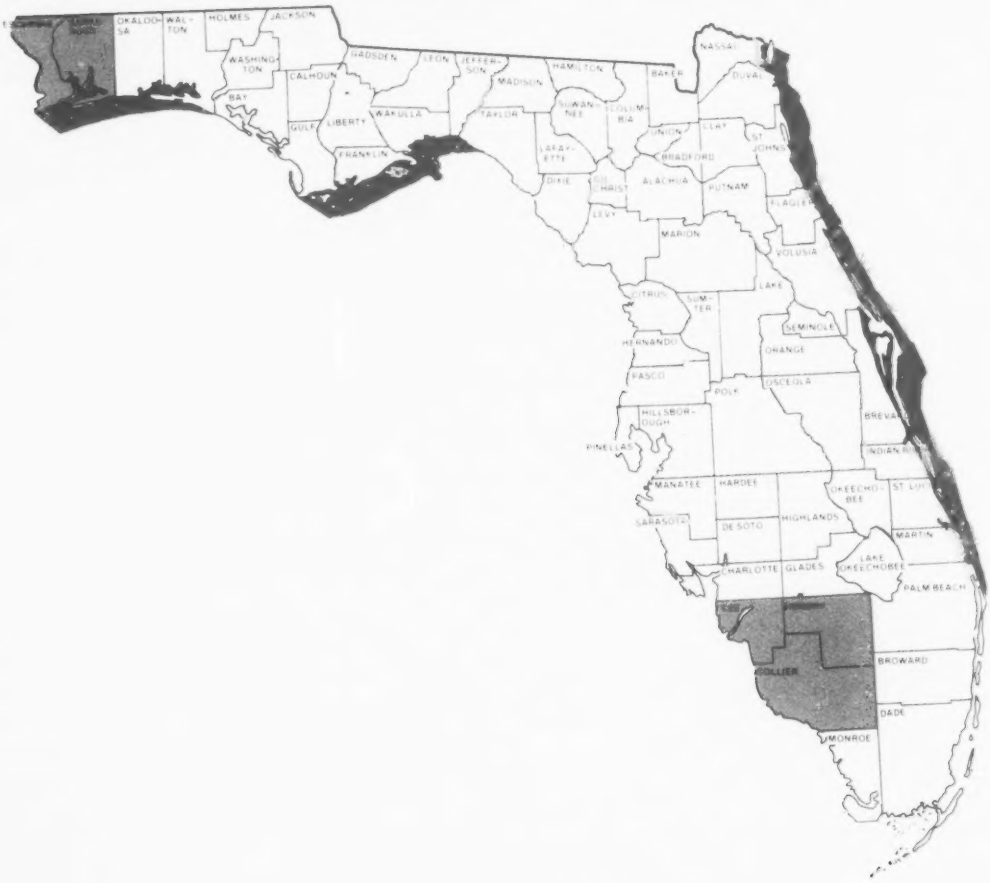
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	54	11.1
Gas Wells	80	16.4
Dry Wells	353	72.5
Service Wells	0	0
Total Wells	487	100.0
Average Depth per well	5,110	
Total Footage	2,488,330	
Development Wells		
Oil Wells	211	27.5
Gas Wells	401	52.4
Dry Wells	153	20.0
Service Wells	1	0.1
Total Wells	766	100.0
Average Depth per well	5,134	
Total Footage	3,932,506	
Total Wells		
Oil Wells	265	21.2
Gas Wells	481	38.4
Dry Wells	506	40.4
Service Wells	1	0
Total Wells	1,253	100.0
Average Depth per well	5,124	
Total Footage	6,420,836	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	7,696	26.8
Gas	4,104	14.3
Dry	16,879	58.9
Total	28,679	100.0

The Oil Producing Industry in FLORIDA



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	67
2.	Number of Counties with oil and/or gas production	5
3.	Total land area of State (acres)	34,617,600
4.	Area proved productive of oil and/or gas (acres)	34,200
5.	Estimated non-productive area leased January 1, 1981 (acres)	2,971,000
6.	Percent of total land area productive or leased	8.7
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 4,217,144
8.	Average field price of crude oil per barrel in 1980	$ 20.77
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 889,910
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 87,155
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 977,065
12.	Percent petroleum value to total all minerals	38.8%
13.	Principal mineral products in order of value:	
	1st	Crude Petroleum
	2nd	Portland Cement
	3rd	Natural Gas
14.	Number of employees engaged in crude oil and natural gas production	735
15.	First year of production of crude oil	1943
	natural gas	1943
16.	First recorded production of crude oil (barrels) 1943	4,000
	natural gas (Mcf) 1949	10,000
17.	Geophysical Activity—Crew months worked in 1980	21

Production & Reserves

18.	Year of largest production (crude oil)	1978
19.	Crude oil produced in year of largest production (barrels)	47,536,000
20.	Percent of crude oil produced by stripper wells	Not Available

21. Number of producing wells at end of 1980: Crude Oil 120
Gas & Condensate 0
Total 120

22. Average daily production of crude oil per well at end of 1980 ..... 987.2

23. Percent of wells pumping or on artificial lift 66.6%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	127,784	28,750*	156,534
1978	130,236	22,438*	152,674
1979	129,227	30,137*	159,364
1980	117,066	29,000*	146,066

25. Production and new reserves found in 1979:

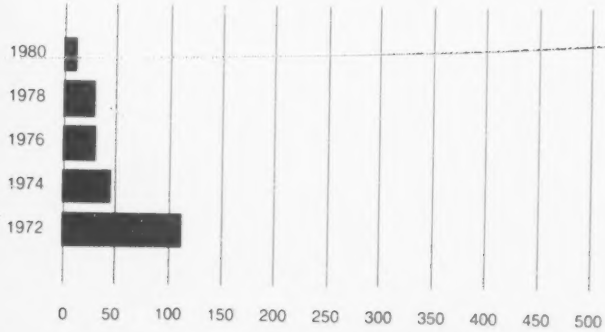
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	7	7	14	-6
Estimated Production	47	10	57	36
Net Change in Reserves	−40	-3	-43	-42

26. Production and new reserves found all time to December 31, 1979:

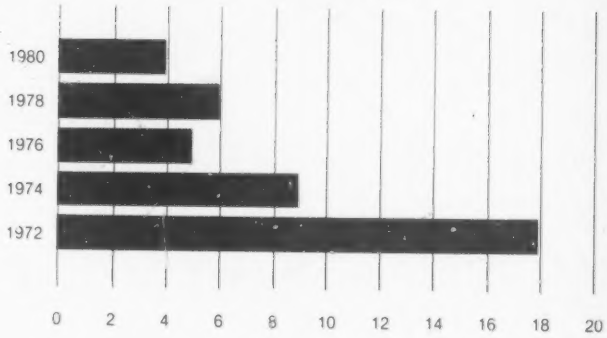
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	540	58	598	388
Total Production	412	37	449	311
Proved Reserves Dec. 31, 1979	128	21	149	77

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 4

28. Deepest producing well drilled to January 1, 1981 ..... *Oil* 16,130

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 18,670

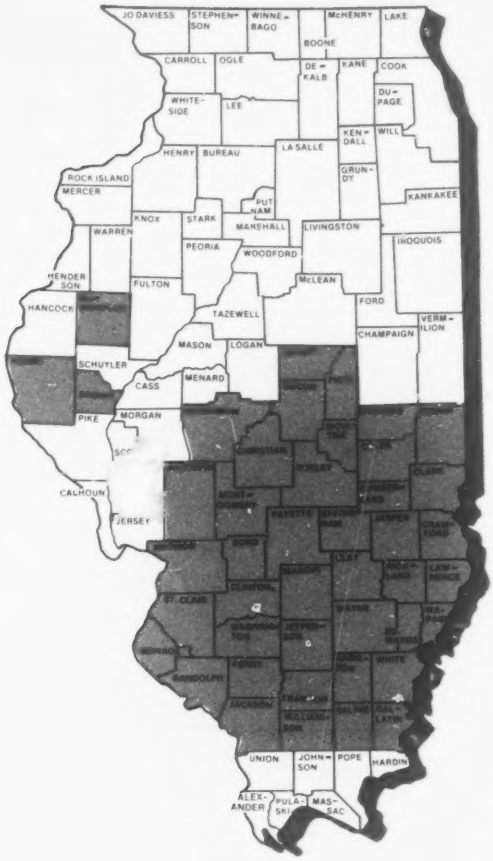
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	0	0
Gas Wells	0	0
Dry Wells	5	100.0
Service Wells	0	0
Total Wells	5	100.0
Average Depth per well	12,566	
Total Footage	62,832	
Development Wells		
Oil Wells	5	71.4
Gas Wells	0	0
Dry Wells	1	14.3
Service Wells	1	14.3
Total Wells	7	100.0
Average Depth per well	13,888	
Total Footage	97,218	
Total Wells		
Oil Wells	5	41.7
Gas Wells	0	0
Dry Wells	6	50.0
Service Wells	1	8.3
Total Wells	12	100.0
Average Depth per well	13,338	
Total Footage	160,050	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	231	27.3
Gas	2	0.3
Dry	612	72.4
Total	845	100.0

The Oil Producing Industry in ILLINOIS



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	102
2.	Number of Counties with oil and/or gas production	43
3.	Total land area of State (acres)	35,678,720
4.	Area proved productive of oil and/or gas (acres)	663,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	3,750,000
6.	Percent of total land area productive or leased	12.3
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 9,303,850
8.	Average field price of crude oil per barrel in 1980	$ 35.85
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 822,220
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 3,354
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 825,574
12.	Percent petroleum value to total all minerals	22.3%
13.	Principal mineral products in order of value:	
	1st	Coal
	2nd	Crude Petroleum
	3rd	Crushed Stone
14.	Number of employees engaged in crude oil and natural gas production	6,500
15.	First year of production of crude oil	1889
	natural gas	1882
16.	First recorded production of crude oil (barrels) 1890	1,460
	natural gas (Mcf) 1906	410,000
17.	Geophysical Activity—Crew months worked in 1980	5

Production & Reserves

18.	Year of largest production (crude oil)	1940
19.	Crude oil produced in year of largest production (barrels)	147,647,000
20.	Percent of crude oil produced by stripper wells	93.2%

21. Number of producing wells at end of 1980: Crude Oil 24,745
Gas & Condensate 58
Total 24,803

22. Average daily production of crude oil per well at end of 1980 ..... 2.5

23. Percent of wells pumping or on artificial lift 100.0%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	70,159	33,000*	103,159
1978	64,005	23,020*	89,119
1979	59,707	24,384*	84,091
1980	62,664	24,500*	87,164

25. Production and new reserves found in 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	-3 ‡	0	-3 ‡	52
Estimated Production	19	0	19	2
Net Change in Reserves	-22	0	-22	50

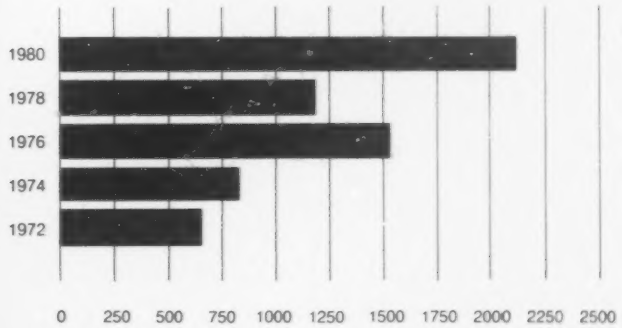
26. Production and new reserves found all time to December 31, 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	3,246	130	3,376	1,932
Total Production	3,110	130	3,240	1,460
Proved Reserves Dec. 31, 1979	136	0	136	472

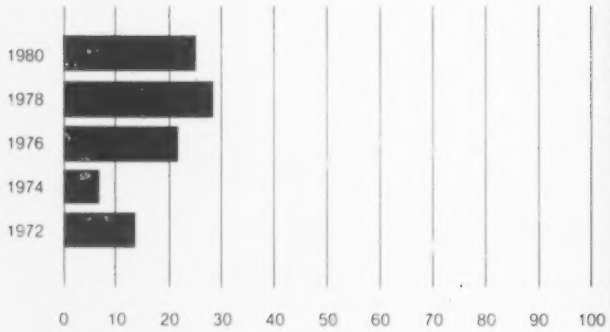
*Estimated

‡Downward Revision of Previous Estimate

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 25

28. Deepest producing well drilled to January 1, 1981 ..... *Oil* 5,405

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 14,942

30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	83	18.7
Gas Wells	0	0
Dry Wells	361	81.3
Service Wells	0	0
Total Wells	444	100.0
Average Depth per well	2,910	
Total Footage	1,292,102	
Development Wells		
Oil Wells	1,002	59.5
Gas Wells	8	0.5
Dry Wells	525	31.2
Service Wells	148	8.8
Total Wells	1,683	100.0
Average Depth per well	2,448	
Total Footage	4,119,439	
Total Wells		
Oil Wells	1,085	51.0
Gas Wells	8	0.4
Dry Wells	886	41.7
Service Wells	148	6.9
Total Wells	2,127	100.0
Average Depth per well	2,544	
Total Footage	5,411,541	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	69,610	61.3
Gas	1,387	1.2
Dry	42,622	37.5
Total	113,619	100.0

The Oil Producing Industry in INDIANA

Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	92
2.	Number of Counties with oil and/or gas production	37
3.	Total land area of State (acres)	23,102,080
4.	Area proved productive of oil and/or gas (acres)	7,828,810
5.	Estimated non-productive area leased January 1, 1981 (acres)	950,000
6.	Percent of total land area productive or leased	38.0
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 1,489,294
8.	Average field price of crude oil per barrel in 1980	$ 36.07
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 166,895
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 469
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 167,364
12.	Percent petroleum value to total all minerals	12.0%
13.	Principal mineral products in order of value:	
	1st	Coal
	2nd	Crude Petroleum
	3rd	Portland Cement
14.	Number of employees engaged in crude oil and natural gas production	743
15.	First year of production of crude oil	1889
	natural gas	1885
16.	First recorded production of crude oil (barrels) 1889	23,000
	natural gas (Mcf) 1906	7,861
17.	Geophysical Activity—Crew months worked in 1980	6

Production & Reserves

18.	Year of largest production (crude oil)	1953
19.	Crude oil produced in year of largest production (barrels)	12,823,000
20.	Percent of crude oil produced by stripper wells	96.6%

21. Number of producing wells at end of 1980: Crude Oil 5,452
Gas & Condensate 655
Total 6,107

22. Average daily production of crude oil per well at end of 1980 ..... 2.4

23. Percent of wells pumping or on artificial lift 100.0%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	14,559	0	14,559
1978	12,847	0	12,847
1979	12,918	0	12,918
1980	12,642	200	12,642*

25. Production and new reserves found in 1979:

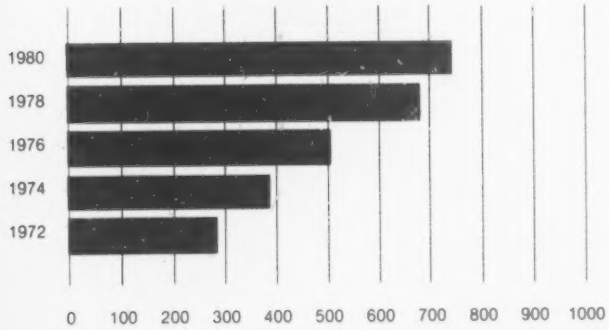
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	16	0	16	-4.1
Estimated Production	5	0	5	.2
Net Change in Reserves	11	0	11	-4.3

26. Production and new reserves found all time to December 31, 1979:

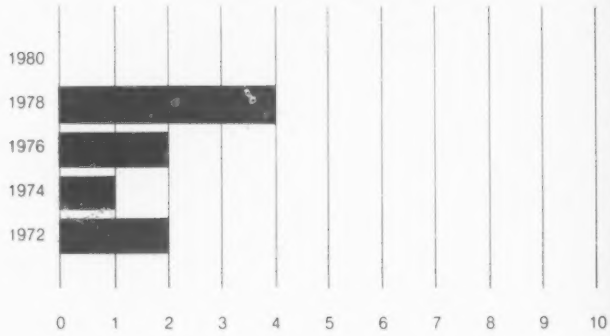
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	508	782	1,290	223
Total Production	468	782	1,250	171
Proved Reserves Dec. 31, 1979	40	0	40	52

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) ..... < 1

28. Deepest producing well drilled to January 1, 1981 ..... *Oil* 4,508

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 7,980

30. Wells and footage drilled in 1980:

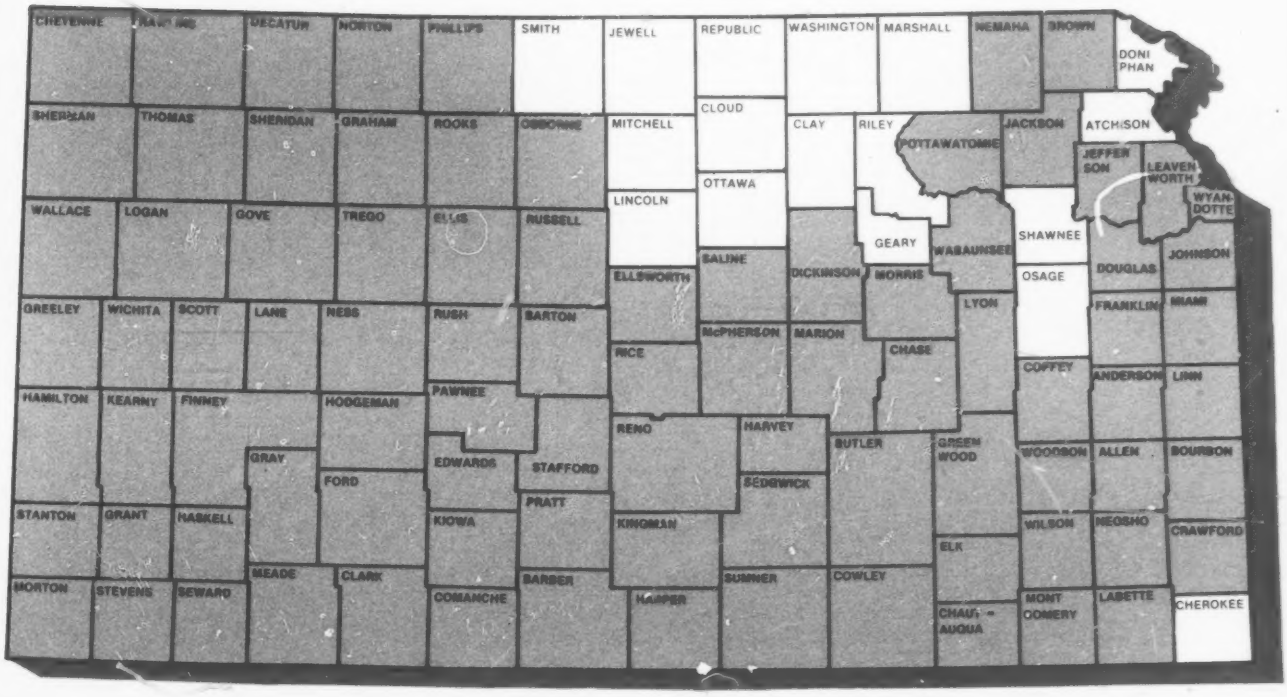
	Number	*Percent*
Wildcat Wells		
Oil Wells	85	26.2
Gas Wells	6	1.9
Dry Wells	233	71.9
Service Wells	0	0
Total Wells	324	100.0
Average Depth per well	2,013	
Total Footage	652,185	
Development Wells		
Oil Wells	243	57.6
Gas Wells	40	9.5
Dry Wells	121	28.7
Service Wells	18	4.2
Total Wells	422	100.0
Average Depth per well	1,810	
Total Footage	763,644	
Total Wells		
Oil Wells	328	44.0
Gas Wells	46	6.2
Dry Wells	354	47.4
Service Wells	18	2.4
Total Wells	746	100.0
Average Depth per well	1,898	
Total Footage	1,415,829	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	36,024	59.9
Gas	2,018	3.4
Dry	22,102	36.7
Total	60,144	100.0

< Less than

The Oil Producing Industry in KANSAS



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	105
2.	Number of Counties with oil and/or gas production	88
3.	Total land area of State (acres)	52,343,680
4.	Area proved productive of oil and/or gas (acres)	3,804,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	9,418,400
6.	Percent of total land area productive or leased	25.2
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 16,432,192
8.	Average field price of crude oil per barrel in 1980	$ 34.20
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 2,057,200
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 786,957
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 2,844,157
12.	Percent petroleum value to total all minerals	88.3%
13.	Principal mineral products in order of value:	
	1st ..... Crude Petroleum	
	2nd ..... Natural Gas	
	3rd ..... Portland Cement	
14.	Number of employees engaged in crude oil and natural gas production	13,716
15.	First year of production of crude oil	1889
	natural gas	1882
16.	First recorded production of crude oil (barrels) 1889	500
	natural gas (Mcf) 1906	69,323
17.	Geophysical Activity—Crew months worked in 1980	76

Production & Reserves

18.	Year of largest production (crude oil)	1956
19.	Crude oil produced in year of largest production (barrels)	124,204,000
20.	Percent of crude oil produced by stripper wells	77.1%

21. Number of producing wells at end of 1980: Crude Oil 47,457
Gas & Condensate 10,544
Total 58,001

22. Average daily production of crude oil per well at end of 1980 ..... 3.5

23. Percent of wells pumping or on artificial lift 100.0%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	157,523	84,992	242,515
1978	155,030	88,493	243,523
1979	157,011	87,397*	244,408
1980	164,350	78,500*	242,850

25. Production and new reserves found in 1979:

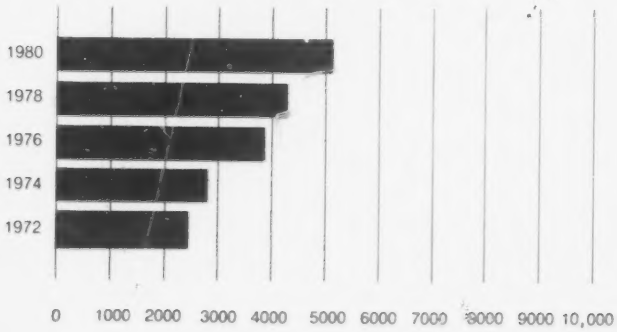
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	131	11	142	-11
Estimated Production	57	29	86	738
Net Change in Reserves	74	−18	56	-727

26. Production and new reserves found all time to December 31 1979:

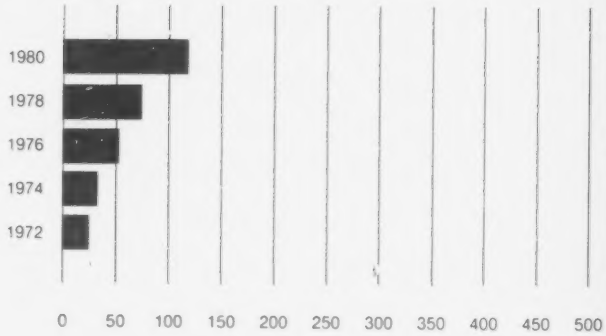
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	5,271	1,018	6,289	36,056
Total Production	4,894	616	5,510	25,813
Proved Reserves Dec. 31, 1979	377	402	779	10,243

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 120

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 6,774

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 8,713

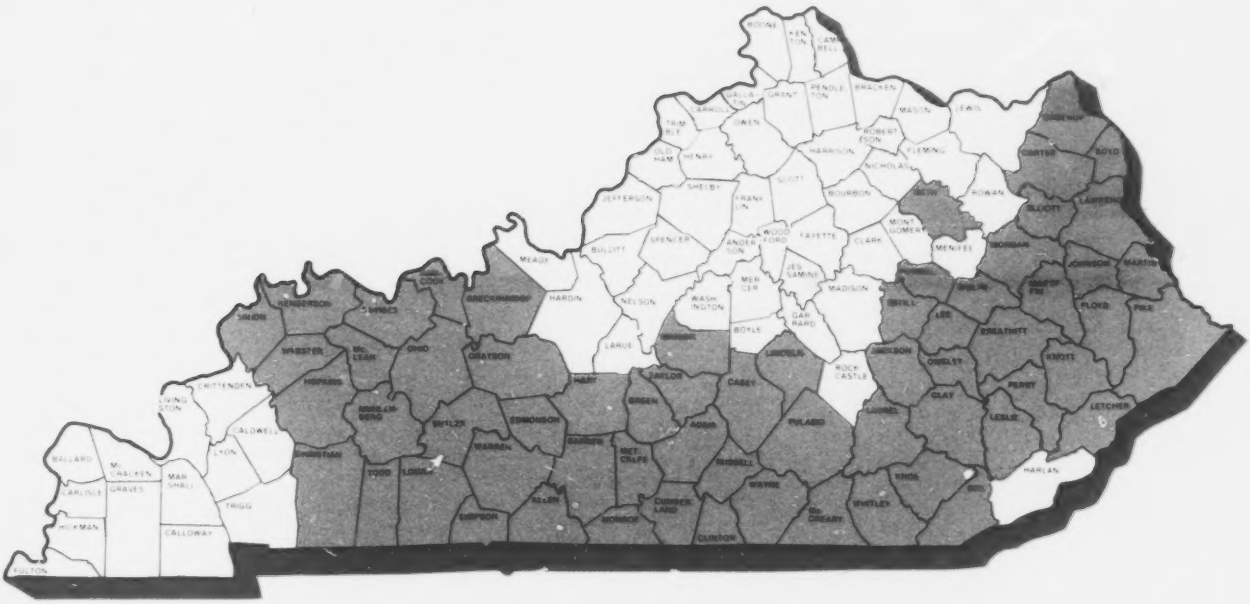
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	156	14.2
Gas Wells	63	5.8
Dry Wells	878	80.0
Service Wells	0	0
Total Wells	1,097	100.0
Average Depth per well	3,982	
Total Footage	4,367,707	
Development Wells		
Oil Wells	2,014	49.6
Gas Wells	510	12.6
Dry Wells	1,457	35.8
Service Wells	83	2.0
Total Wells	4,064	100.0
Average Depth per well	3,212	
Total Footage	13,068,392	
Total Wells		
Oil Wells	2,170	42.1
Gas Wells	573	11.1
Dry Wells	2,335	45.2
Service Wells	83	1.6
Total Wells	5,161	100.0
Average Depth per well	3,378	
Total Footage	17,436,099	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	101,872	52.0
Gas	19,309	9.9
Dry	74,652	38.1
Total	195,833	100.0

The Oil Producing Industry in KENTUCKY



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	120
2.	Number of Counties with oil and/or gas production	61
3.	Total land area of State (acres)	25,376,000
4.	Area proved productive of oil and/or gas (acres)	950,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	4,000,000
6.	Percent of total land area productive or leased	19.5
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 14,587,132
8.	Average field price of crude oil per barrel in 1980	$ 35.25
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 212,140
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 73,787
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 285,927
12.	Percent petroleum value to total all minerals	4.3%
13.	Principal mineral products in order of value:	
	1st	Coal
	2nd	Crude Petroleum
	3rd	Natural Gas
14.	Number of employees engaged in crude oil and natural gas production	2,905
15.	First year of production of crude oil	1860
	natural gas	1888
16.	First recorded production of crude oil (barrels) 1883	5,000
	natural gas (Mcf) 1906	789
17.	Geophysical Activity—Crew months worked in 1980	23

Production & Reserves

18.	Year of largest production (crude oil)	1959
19.	Crude oil produced in year of largest production (barrels)	27,272,000
20.	Percent of crude oil produced by stripper wells	82.4%

21. Number of producing wells at end of 1980: Crude Oil 14,517
Gas & Condensate 7,992
Total 22,509

22. Average daily production of crude oil per well at end of 1980 ..... 1.1

23. Percent of wells pumping or on artificial lift 100%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	18,030	8,125*	26,155
1978	15,682	10,448*	26,130
1979	15,107	12,877*	27,984
1980	16,213	8,900*	25,113

25. Production and new reserves found in 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	-11 ‡	3	-8	-28
Estimated Production	4	3	7	49
Net Change in Reserves	-15	0	-1	-77

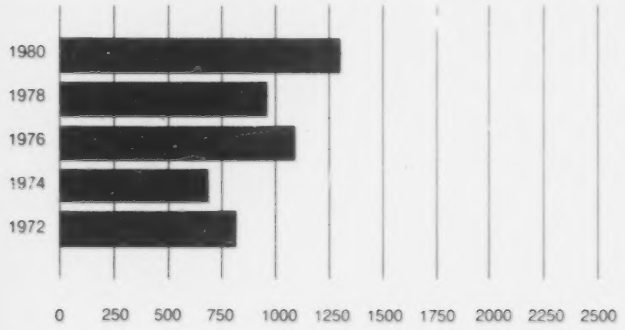
26. Production and new reserves found all time to December 31, 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	676	128	804	3,888
Total Production	651	102	753	3,420
Proved Reserves Dec. 31, 1979	25	26	51	468

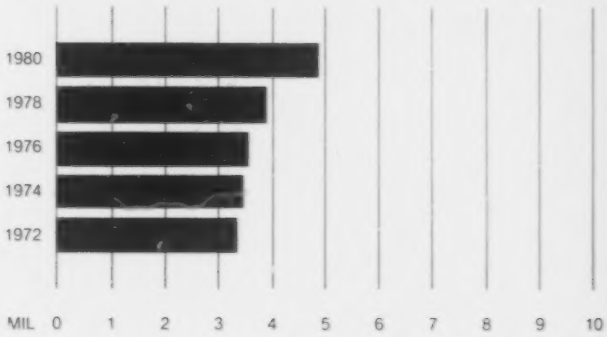
*Estimated

‡Downward Revision of Previous Estimate

TOTAL WELLS DRILLED



ACREAGE UNDER LEASE FOR OIL & GAS



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 2

28. Deepest producing well drilled to January 1, 1981 ..... *Oil* 7,598

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 15,200

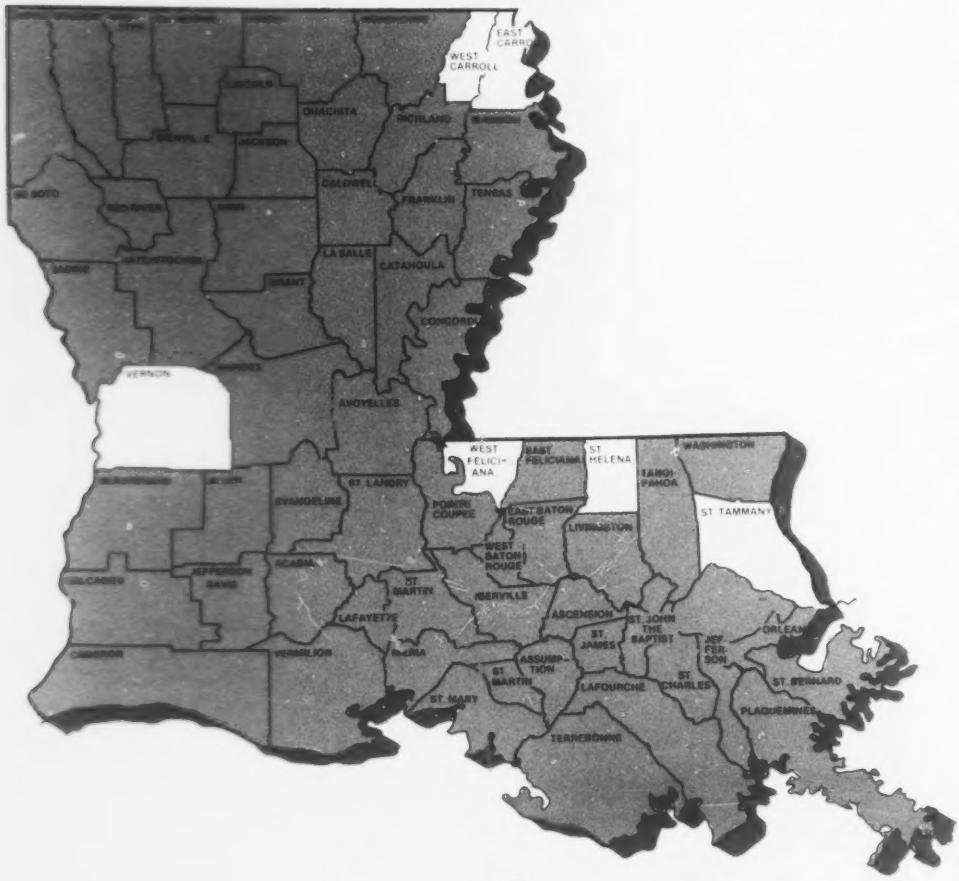
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	55	12.3
Gas Wells	37	8.3
Dry Wells	355	79.4
Service Wells	0	0
Total Wells	447	100.0
Average Depth per well	1,566	
Total Footage	700,035	
Development Wells		
Oil Wells	394	46.5
Gas Wells	89	10.5
Dry Wells	330	40.0
Service Wells	34	4.0
Total Wells	847	100.0
Average Depth per well	1,319	
Total Footage	1,117,009	
Total Wells		
Oil Wells	449	34.7
Gas Wells	126	9.7
Dry Wells	685	53.0
Service Wells	34	2.6
Total Wells	1,294	100.0
Average Depth per well	1,404	
Total Footage	1,817,044	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	45,520	53.0
Gas	9,480	11.0
Dry	30,905	36.0
Total	85,905	100.0

The Oil Producing Industry in LOUISIANA



Parishes with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Parishes	64
2.	Number of Parishes with oil and/or gas production	58
3.	Total land area of State (acres)	28,755,200
4.	Area proved productive of oil and/or gas (acres)	4,595,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	11,367,000
6.	Percent of total land area productive or leased	55.5
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 77,570,833
8.	Average field price of crude oil per barrel in 1980	$ 16.00
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 7,471,425
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 10,024,039
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 17,495,464
12.	Percent petroleum value to total all minerals	97.5%
13.	Principal mineral products in order of value:	
	1st ..... Natural Gas	
	2nd ..... Crude Petroleum	
	3rd ..... Salt	
14.	Number of employees engaged in crude oil and natural gas production	85,779
15.	First year of production of crude oil	1902
	natural gas	1905
16.	First recorded production of crude oil (barrels) 1902	549,000
	natural gas (Mcf) 1905	31
17.	Geophysical Activity—Crew months worked in 1980	654

Production & Reserves

18.	Year of largest production (crude oil)	1971
19.	Crude oil produced in year of largest production (barrels)	935,243,000
20.	Percent of crude oil produced by stripper wells	1.5%

21. Number of producing wells at end of 1980: Crude Oil 26,014
Gas & Condensate 11,486
Total 37,500

22. Average daily production of crude oil per well at end of 1980 ..... 22.8

23. Percent of wells pumping or on artificial lift 83.7%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	1,542,205	322,638	1,864,843
1978	1,459,562	308,964	1,768,526
1979	1,341,608	340,548	1,682,156
1980	1,275,858	305,000*	1,580,858

25. Production and new reserves found in 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	-257 ‡	3	-254	1,404
Estimated Production	411	189	600	7,087
Net Change in Reserves	-668	-186	-854	-5,683

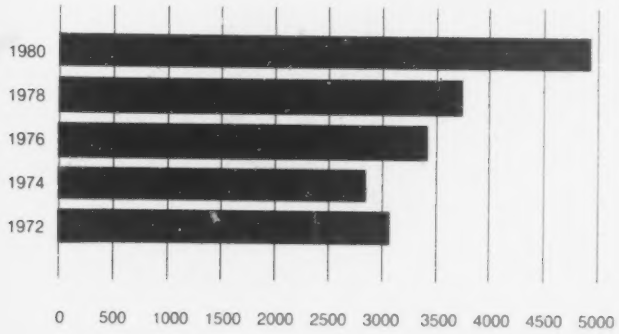
26. Production and new reserves found all time to December 31, 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	22,972	2,929	25,901	201,884
Total Production	20,192	1,505	21,697	151,842
Proved Reserves Dec. 31, 1979	2,780	1,424	4,204	50,042

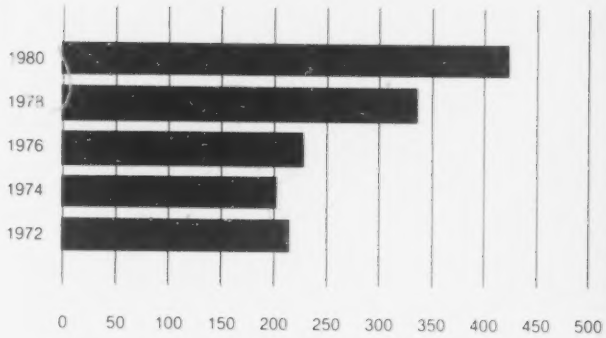
*Estimated

‡Downward Revision of Previous Estimate

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 427

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 21,862

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 25,600

30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	32	4.0
Gas Wells	57	7.1
Dry Wells	709	88.9
Service Wells	0	0
Total Wells	798	100.0
Average Depth per well	9,774	
Total Footage	7,799,704	
Development Wells		
Oil Wells	1,272	30.6
Gas Wells	1,722	41.4
Dry Wells	1,070	25.7
Service Wells	94	2.3
Total Wells	4,158	100.0
Average Depth per well	5,623	
Total Footage	23,379,872	
Total Wells		
Oil Wells	1,304	26.3
Gas Wells	1,779	35.9
Dry Wells	1,779	35.9
Service Wells	94	1.9
Total Wells	4,956	100.0
Average Depth per well	6,291	
Total Footage	31,179,576	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	71,170	47.1
Gas	23,858	15.8
Dry	56,243	37.1
Total	151,271	100.0

The Oil Producing Industry in MARYLAND

Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	23
2.	Number of Counties with oil and/or gas production	1
3.	Total land area of State (acres)	6,330,240
4.	Area proved productive of oil and/or gas (acres)	14,200
5.	Estimated non-productive area leased January 1, 1981 (acres)	435,000
6.	Percent of total land area productive or leased	7.0
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	6,830
8.	Average field price of crude oil per barrel in 1980	1.35
9.	Value at wells of crude oil produced in 1980 (Thous.)	Not Applicable
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 41
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 41
12.	Percent petroleum value to total all minerals	.01%
13.	Principal mineral products in order of value:	
	1st ..... Crushed Stone	
	2nd ..... Sand & Gravel	
	3rd ..... Portland Cement	
14.	Number of employees engaged in crude oil and natural gas production	66
15.	First year of production of natural gas	1943
16.	First recorded production of natural gas (Mcf) 1949	3,422
17.	Geophysical Activity—Crew months worked in 1980	4

Production & Reserves

18.	Year of largest production (natural gas)	1957
19.	Natural gas produced in year of largest production (Mcf)	4,649
20.	Percent of crude oil produced by stripper wells	Not Applicable

21. Number of producing wells at end of 1980: Gas & Condensate..... 10*

22. Average daily production of natural gas per well at end of 1980 (Mcf)..... 25*

23. Percent of wells pumping or on artificial lift ..... Not Applicable

24. Average production in Mcf daily:

	Crude Oil	*Natural Gas*	*Total Petroleum Liquids*
1977	0	225	225
1978	0	252	252
1979	0	247	247
1980	0	235	235

25. Production and new reserves found in 1979:

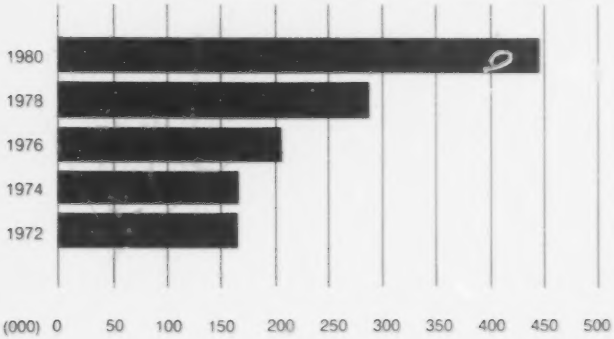
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	0	0	0	12.4
Estimated Production	0	0	0	.1
Net Change in Reserves	0	0	0	12.3

26. Production and new reserves found all time to December 31, 1979:

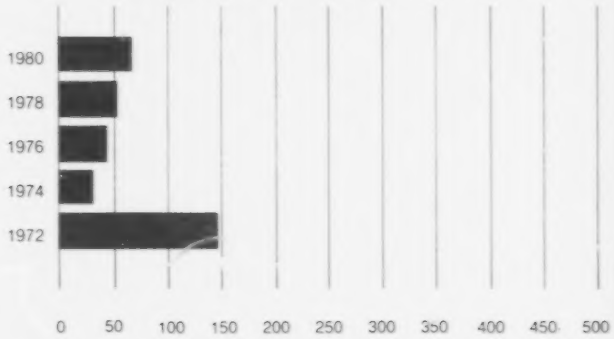
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	0	0	0	275.5
Total Production	0	0	0	60.5
Proved Reserves Dec. 31, 1979	0	0	0	215.0

*Estimated

ACREAGE UNDER LEASE FOR OIL & GAS



NUMBER OF EMPLOYEES ENGAGED IN CRUDE OIL & NATURAL GAS PRODUCTION



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) ..... <1

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 8,658

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 11,617

30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	0	0
Gas Wells	0	0
Dry Wells	0	0
Service Wells	0	0
Total Wells	0	0
Average Depth per well	0	
Total Footage	0	
Development Wells		
Oil Wells	0	0
Gas Wells	0	0
Dry Wells	0	0
Service Wells	0	0
Total Wells	0	0
Average Depth per well	0	
Total Footage	0	
Total Wells		
Oil Wells	0	0
Gas Wells	0	0
Dry Wells	0	0
Service Wells	0	0
Total Wells	0	0
Average Depth per well	0	
Total Footage	0	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	0	0
Gas	72	61.5
Dry	45	38.5
Total	117	100.0

< Less than

The Oil Producing Industry in MICHIGAN

Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	83
2.	Number of Counties with oil and/or gas production	58
3.	Total land area of State (acres)	36,362,880
4.	Area proved productive of oil and/or gas (acres)	550,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	12,000,000
6.	Percent of total land area productive or leased	12,550,000
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 4,173,354
8.	Average field price of crude oil per barrel in 1980	$ 23.81
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 779,850
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 314,191
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 1,094,041
12.	Percent petroleum value to total all minerals	34.2%
13.	Principal mineral products in order of value:	
	1st	Irone Ore
	2nd	Crude Petroleum
	3rd	Natural Gas
14.	Number of employees engaged in crude oil and natural gas production	3,876
15.	First year of production of crude oil	1889
	natural gas	1909
16.	First recorded production of crude oil (barrels) 1912	4,000
	natural gas (Mcf) 1909	510
17.	Geophysical Activity—Crew months worked in 1980	145

Production & Reserves

18.	Year of largest production (crude oil)	1978
19.	Crude oil produced in year of largest production (barrels)	34,667,000
20.	Percent of crude oil produced by stripper wells	16.1%

21. Number of producing wells at end of 1980: Crude Oil 4,109
Gas & Condensate 423
Total 4,532

22. Average daily production of crude oil per well at end of 1980 ..... 22.8

23. Percent of wells pumping or on artificial lift 85.7%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	90,315	21,696	112,011
1978	94,978	27,926	122,904
1979	95,512	30,685*	126,197
1980	89,489	32,000*	121,489

25. Production and new reserves found in 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	–31 ‡	9	-22	-84
Estimated Production	30	13	43	134
Net Change in Reserves	-61	-4	-65	-218

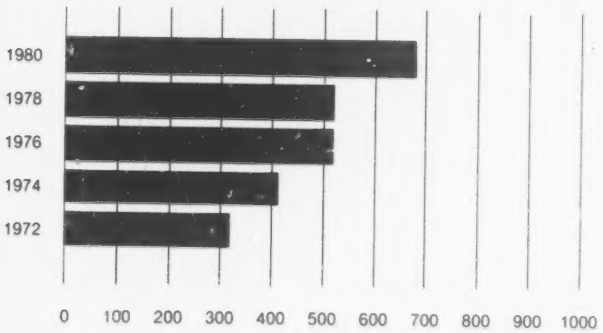
26. Production and new reserves found all time to December 31, 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	958	157	1,115	1,338
Total Production	799	45	844	134
Proved Reserves Dec. 31, 1979	159	112	271	1,204

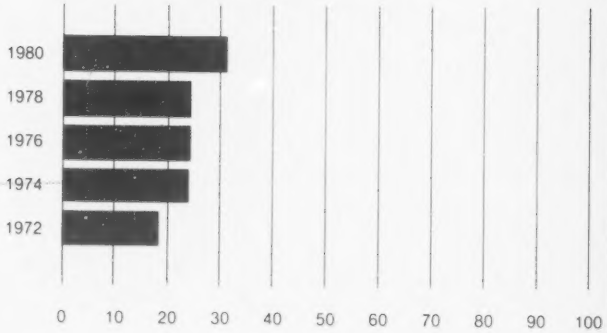
*Estimated

‡Downward Revision of Previous Estimate

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 31

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 7,512

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 17,466

30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	42	13.1
Gas Wells	22	6.9
Dry Wells	257	80.0
Service Wells	0	0
Total Wells	321	100.0
Average Depth per well	4,298	
Total Footage	1,379,699	
Development Wells		
Oil Wells	167	46.3
Gas Wells	32	8.9
Dry Wells	145	40.1
Service Wells	17	4.7
Total Wells	361	100.0
Average Depth per well	4,080	
Total Footage	1,472,721	
Total Wells		
Oil Wells	209	36.7
Gas Wells	54	7.9
Dry Wells	402	58.9
Service Wells	17	2.5
Total Wells	682	100.0
Average Depth per well	4,182	
Total Footage	2,852,420	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	12,435	40.0
Gas	2,478	8.0
Dry	16,205	52.0
Total	31,118	100.0

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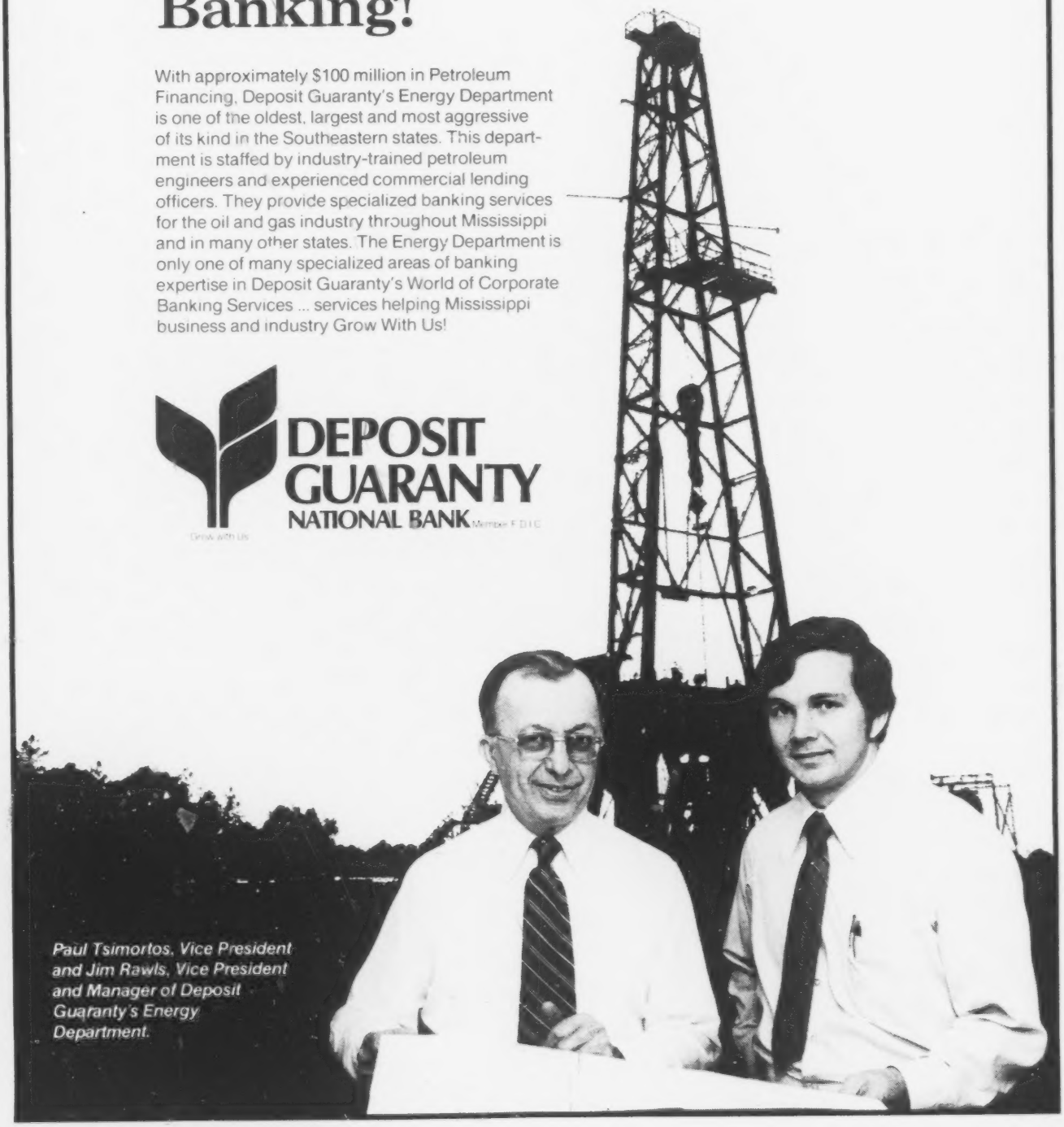

Paul Tsimortos, Vice President and Jim Rawls, Vice President and Manager of Deposit Guaranty's Energy Department.

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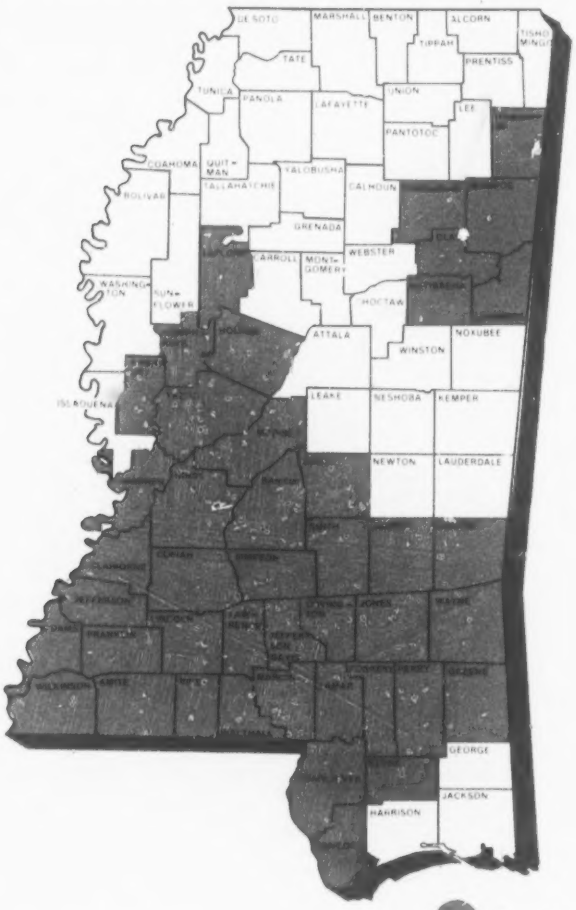
The Oil Producing Industry in MISSISSIPPI



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	82
2.	Number of Counties with oil and/or gas production	41
3.	Total land area of State (acres)	30,269,440
4.	Area proved productive of oil and/or gas (acres)	603,400
5.	Estimated non-productive area leased January 1, 1981 (acres)	7,348,000
6.	Percent of total land area productive or leased	26.3
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 6,370,996
8.	Average field price of crude oil per barrel in 1980	$ 20.98
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 766,460
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 315,987
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 1,082,447
12.	Percent petroleum value to total all minerals	88.6%
13.	Principal mineral products in order of value:	
	1st	Crude Petroleum
	2nd	Natural Gas
	3rd	Sand & Gravel
14.	Number of employees engaged in crude oil and natural gas production	9,680
15.	First year of production of crude oil	1889
	natural gas	1923
16.	First recorded production of crude oil (barrels) 1926	107,000
	natural gas (Mcf) 1926	5,000
17.	Geophysical Activity—Crew months worked in 1980	168

Production & Reserves

18.	Year of largest production (crude oil)	1970
19.	Crude oil produced in year of largest production (barrels)	65,119,000
20.	Percent of crude oil produced by stripper wells	4.2%

21. Number of producing wells at end of 1980: Crude Oil 2,631
Gas & Condensate 458
Total 3,089

22. Average daily production of crude oil per well at end of 1980 ..... 40.9

23. Percent of wells pumping or on artificial lift 95.4%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	117,868	770*	118,638
1978	115,134	2,318*	117,452
1979	102,266	2,466*	104,732
1980	99,817	3,500*	103,317

25. Production and new reserves found in 1979:

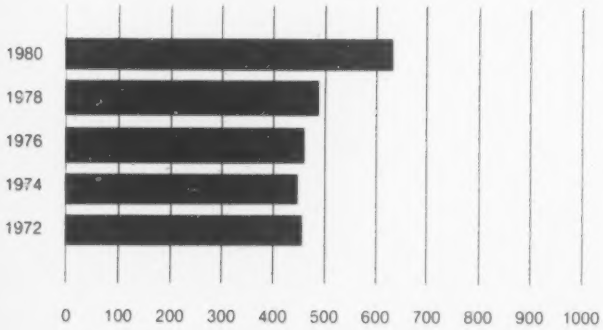
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	24	0	24	23
Estimated Production	36	2	38	154
Net Change in Reserves	-12	-2	-14	-131

26. Production and new reserves found all time to December 31, 1979:

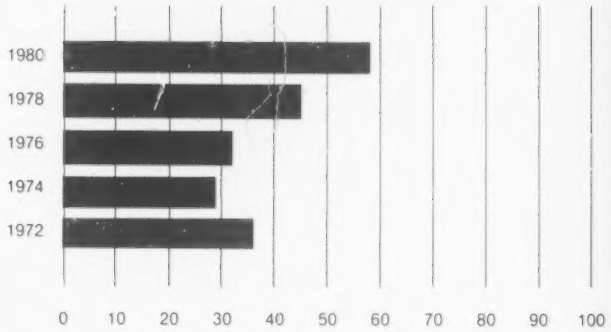
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	2,145	96	2,241	6,955
Total Production	1,907	80	1,987	5,451
Proved Reserves Dec. 31, 1979	238	16	254	1,504

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 58

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 21,727

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 25,460

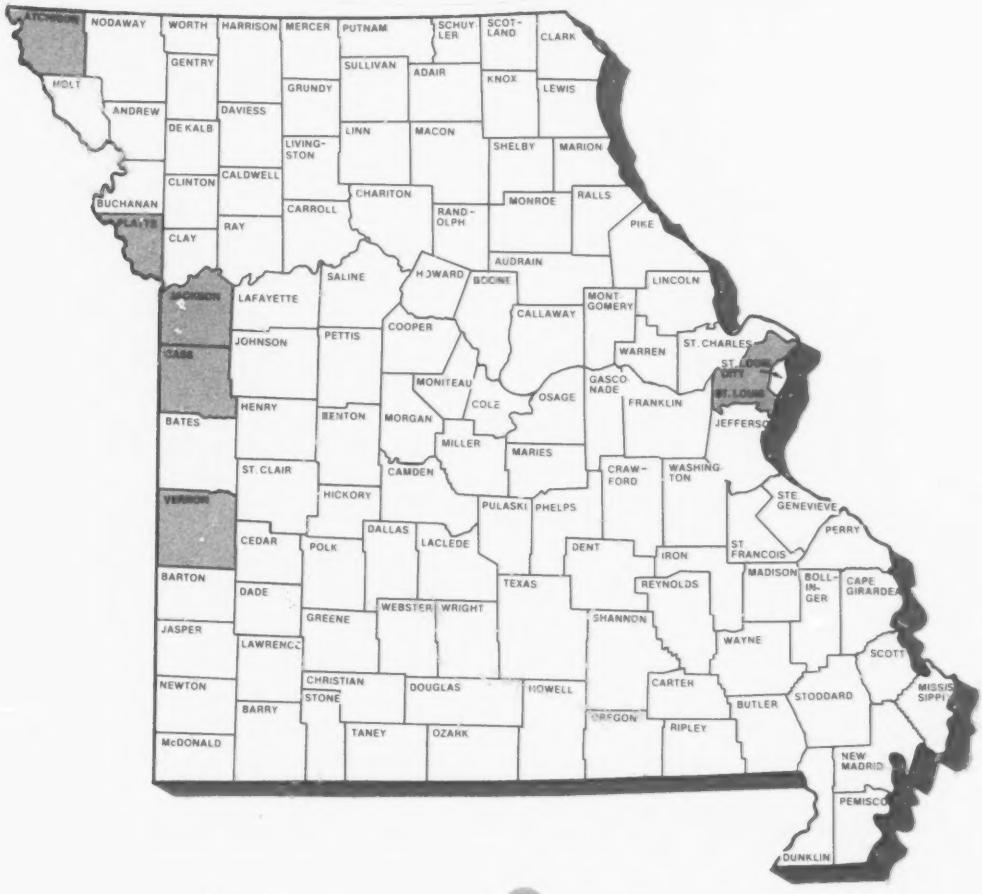
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	25	8.9
Gas Wells	13	4.6
Dry Wells	242	86.5
Service Wells	0	0
Total Wells	280	100.0
Average Depth per well	8,865	
Total Footage	2,482,106	
Development Wells		
Oil Wells	146	41.6
Gas Wells	45	12.8
Dry Wells	148	42.2
Service Wells	12	3.4
Total Wells	351	100.0
Average Depth per well	8,616	
Total Footage	3,024,224	
Total Wells		
Oil Wells	171	27.1
Gas Wells	58	9.2
Dry Wells	390	61.8
Service Wells	12	1.9
Total Wells	631	100.0
Average Depth per well	8,726	
Total Footage	5,506,330	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	6,644	33.6
Gas	979	5.0
Dry	12,138	61.4
Total	19,761	100.0

The Oil Producing Industry in MISSOURI



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	114
2.	Number of Counties with oil and/or gas production	6
3.	Total land area of State (acres)	44,156,800
4.	Area proved productive of oil and/or gas (acres)	4,030
5.	Estimated non-productive area leased January 1, 1981 (acres)	500,400
6.	Percent of total land area productive or leased	1.1
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 11,677
8.	Average field price of crude oil per barrel in 1980	$ 37.75
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 2,680
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 5,985
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 8,665
12.	Percent petroleum value to total all minerals	0.2%
13.	Principal mineral products in order of value:	
	1st	Lead
	2nd	Portland Cement
	3rd	Crushed Stone
14.	Number of employees engaged in crude oil and natural gas production	150
15.	First year of production of crude oil	1888
	natural gas	1887
16.	First recorded production of crude oil (barrels) 1889	20
	natural gas (Mcf) 1906	33,560
17.	Geophysical Activity—Crew months worked in 1980	3

Production & Reserves

18.	Year of largest production (crude oil)	1967
19.	Crude oil produced in year of largest production (barrels)	75,000
20.	Percent of crude oil produced by stripper wells	59.3%

21. Number of producing wells at end of 1980: Crude Oil 258
Gas & Condensate 0
Total 258

22. Average daily production of crude oil per well at end of 1980 ..... 2.0

23. Percent of wells pumping or on artificial lift 92.2%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	167	0	167
1978	148	0	148
1979	249	0	249
1980	194	0	194

25. Production and new reserves found in 1979:

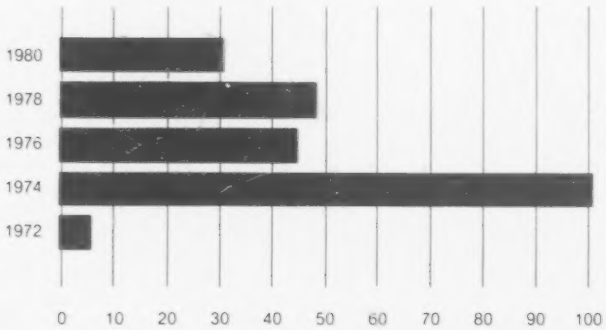
	Crude Oil	*Natural Gas Liquids* (Million Barrels)	*Total Liquids Petroleum*	*Natural Gas* (Bil. Cu. Ft.)
New Reserves Found	.3	0	.3	0
Estimated Production	.1	0	.1	0
Net Change in Reserves	.2	0	.1	0

26. Production and new reserves found all time to December 31, 1979:

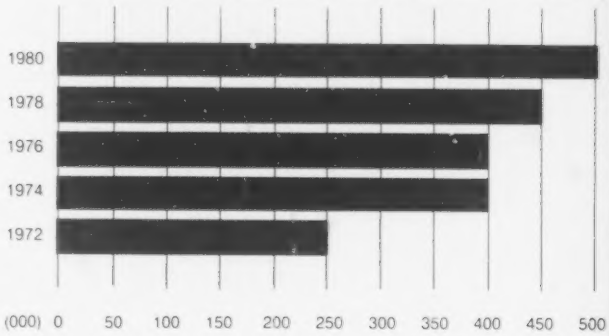
	Crude Oil	*Natural Gas Liquids* (Million Barrels)	*Total Liquids Petroleum*	*Natural Gas* (Bil. Cu. Ft.)
Total Reserves Found	3.3*	0	3.3*	3.7*
Total Production	2.7*	0	2.7*	1.7*
Proved Reserves Dec. 31, 1979	.6*	0	.6*	2.0*

*Estimated

TOTAL WELLS DRILLED



ACREAGE UNDER LEASE FOR OIL & GAS



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 0

28. Deepest producing well drilled to January 1, 1981 ..... *Oil* 2,975

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 4,902

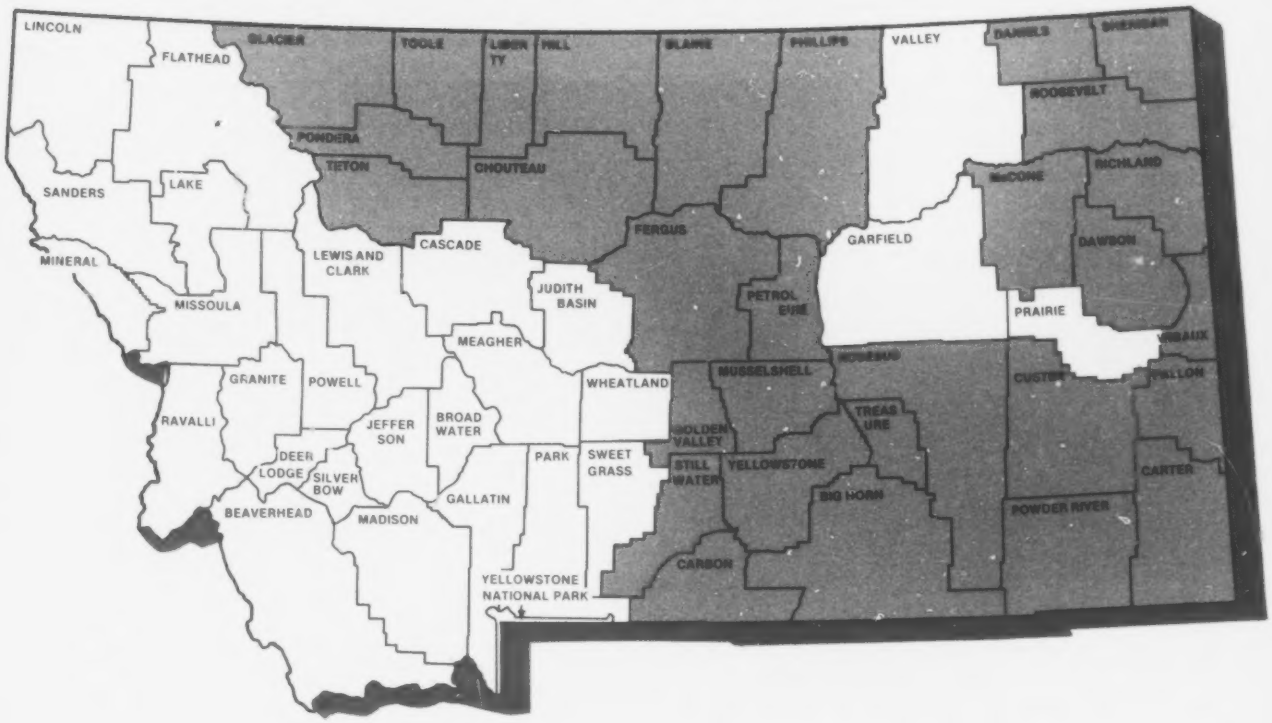
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	0	0
Gas Wells	0	0
Dry Wells	15	100.0
Service Wells	0	0
Total Wells	15	100.0
Average Depth per well	544	
Total Footage	8,162	
Development Wells		
Oil Wells	1	6.2
Gas Wells	1	6.2
Dry Wells	6	37.6
Service Wells	8	50.0
Total Wells	16	100.0
Average Depth per well	382	
Total Footage	6,112	
Total Wells		
Oil Wells	1	3.2
Gas Wells	1	3.2
Dry Wells	21	67.8
Service Wells	8	25.8
Total Wells	31	100.0
Average Depth per well	460	
Total Footage	14,274	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	271	21.6
Gas	179	14.3
Dry	804	64.1
Total	1,254	100.0

The Oil Producing Industry in MONTANA



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	56
2.	Number of Counties with oil and/or gas production	29
3.	Total land area of State (acres)	93,175,680
4.	Area proved productive of oil and/or gas (acres)	850,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	35,210,000
6.	Percent of total land area productive or leased	38.7
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 4,163,966
8.	Average field price of crude oil per barrel in 1980	$ 20.75
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 613,495
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 82,813
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 696,308
12.	Percent petroleum value to total all minerals	45.4%
13.	Principal mineral products in order of value:	
	1st ..... Crude Petroleum	
	2nd ..... Coal	
	3rd ..... Copper	
14.	Number of employees engaged in crude oil and natural gas production	4,636
15.	First year of production of crude oil	1916
	natural gas	1915
16.	First recorded production of crude oil (barrels) 1916	45,000
	natural gas (Mcf) 1915	6
17.	Geophysical Activity—Crew months worked in 1980	202

Production & Reserves

18.	Year of largest production (crude oil)	1968
19.	Crude oil produced in year of largest production (barrels)	48,460,000
20.	Percent of crude oil produced by stripper wells	9.4%

21. Number of producing wells at end of 1980: Crude Oil 3,628
Gas & Condensate 2,150
Total 5,778

22. Average daily production of crude oil per well at end of 1980 ..... 22.7

23. Percent of wells pumping or on artificial lift 91.0%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	89,534	1,150*	90,684
1978	83,471	1,193*	84,664
1979	82,074	1,644*	83,718
1980	80,781	2,150*	82,931

25. Production and new reserves found in 1979:

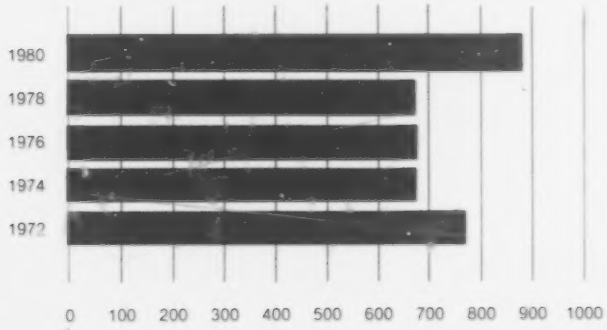
	Crude Oil	*Natural Gas Liquids* (Million Barrels)	*Total Liquids Petroleum*	*Natural Gas* (Bil. Cu. Ft.)
New Reserves Found	23	-1	22	-54
Estimated Production	29	1	30	47
Net Change in Reserves	-6	-2	-8	-101

26. Production and new reserves found all time to December 31, 1979:

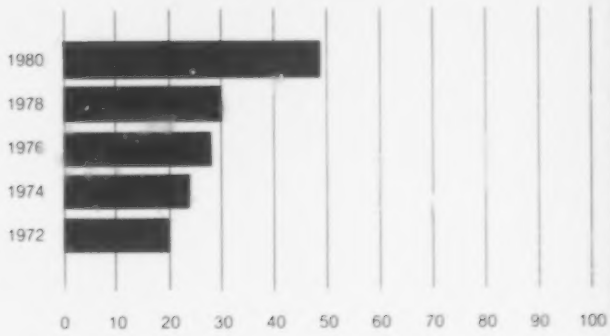
	Crude Oil	*Natural Gas Liquids* (Million Barrels)	*Total Liquids Petroleum*	*Natural Gas* (Bil. Cu. Ft.)
Total Reserves Found	1,169	34	1,203	2,569
Total Production	1,017	24	1,041	1,744
Proved Reserves Dec. 31, 1979	152	10	162	825

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 49

28. Deepest producing well drilled to January 1, 1981 ..... *Oil* 12,915

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 15,723

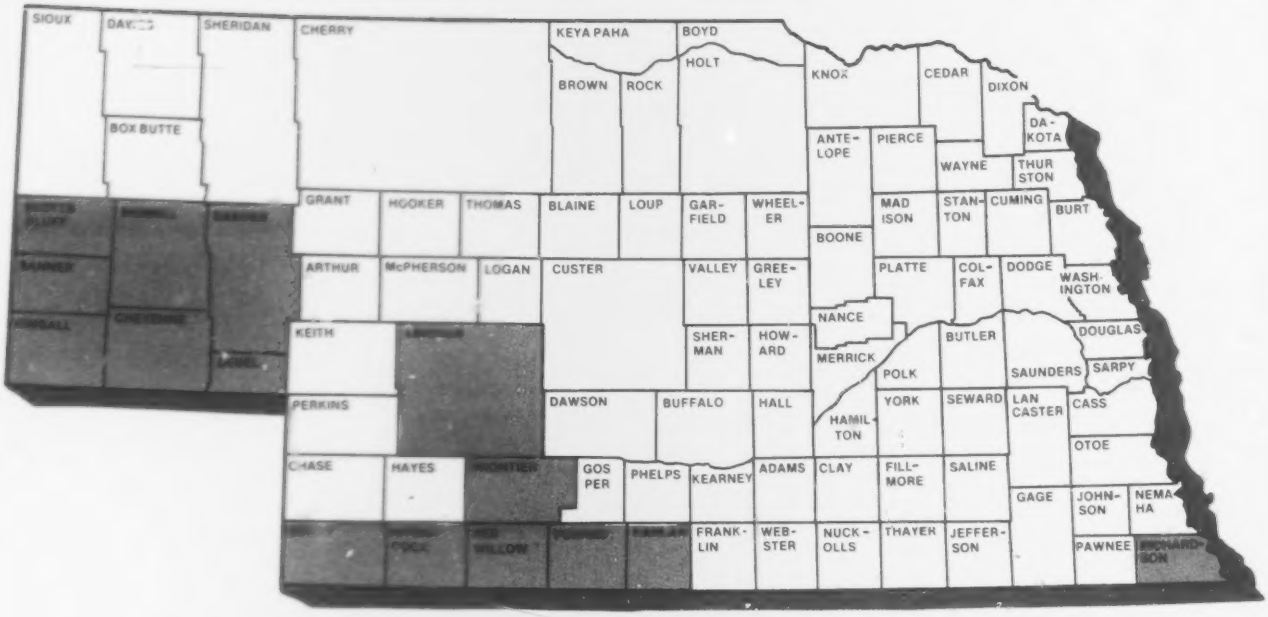
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	46	12.3
Gas Wells	39	10.4
Dry Wells	289	77.3
Service Wells	0	0
Total Wells	374	100.0
Average Depth per well	5,237	
Total Footage	1,958,715	
Development Wells		
Oil Wells	142	28.0
Gas Wells	213	41.9
Dry Wells	146	28.7
Service Wells	7	1.4
Total Wells	508	100.0
Average Depth per well	3,240	
Total Footage	1,646,133	
Total Wells		
Oil Wells	188	21.3
Gas Wells	252	28.6
Dry Wells	435	49.3
Service Wells	7	0.8
Total Wells	882	100.0
Average Depth per well	4,087	
Total Footage	3,604,848	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	8,955	37.0
Gas	3,416	14.1
Dry	11,818	48.9
Total	24,189	100.0

The Oil Producing Industry in NEBRASKA



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	93
2.	Number of Counties with oil and/or gas production	15
3.	Total land area of State (acres)	48,949,120
4.	Area proved productive of oil and/or gas (acres)	280,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	12,304,000
6.	Percent of total land area productive or leased	25.7
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 1,512,868
8.	Average field price of crude oil per barrel in 1980	$ 30.50
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 190,780
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 3,685
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 194,465
12.	Percent petroleum value to total all minerals	55.6%
13.	Principal mineral products in order of value: 1st ..... Crude Petroleum; 2nd ..... Sand & Gravel; 3rd ..... Crushed Stone	
14.	Number of employees engaged in crude oil and natural gas production	723
15.	First year of production of crude oil	1939
	natural gas	1949
16.	First recorded production of crude oil (barrels) 1939	2,000
	natural gas (Mcf) 1951	20,000
17.	Geophysical Activity—Crew months worked in 1980	12

Production & Reserves

18.	Year of largest production (crude oil)	1962
19.	Crude oil produced in year of largest production (barrels)	24,894,000
20.	Percent of crude oil produced by stripper wells	30.7%

21. Number of producing wells at end of 1980: Crude Oil 1,679
Gas & Condensate 22
Total 1,701

22. Average daily production of crude oil per well at end of 1980 ..... 10.2

23. Percent of wells pumping or on artificial lift 99.7%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	16,351	455	16,806
1978	16,060	356	16,416
1979	16,625	274*	16,899
1980	17,090	250*	17,340

25. Production and new reserves found in 1979:

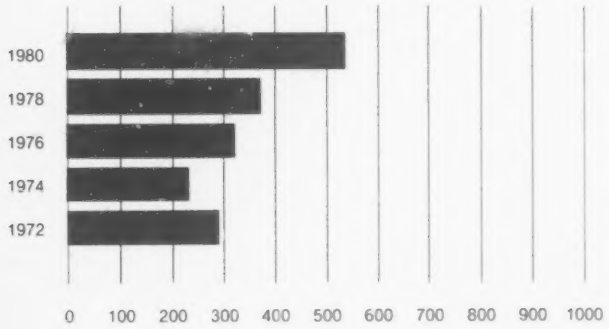
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	6.7	0	6.7	14.9
Estimated Production	5.9	0	5.9	2.8
Net Change in Reserves	.8	0	.8	12.1

26. Production and new reserves found all time to December 31, 1979:

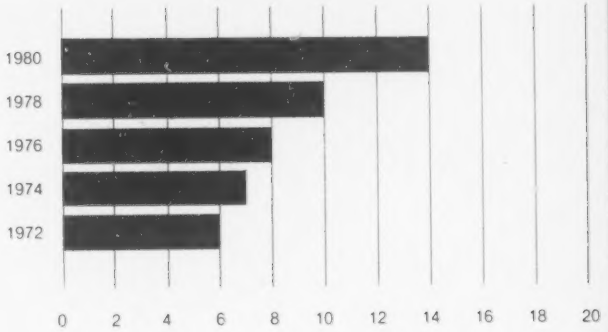
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	399	17.8	417	397
Total Production	374	17.3	391	312
Proved Reserves Dec. 31, 1979	25	0.5*	26	85*

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 14

28. Deepest producing well drilled to January 1, 1981 ..... *Oil* 7,438

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 9,971

30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	26	8.9
Gas Wells	11	3.7
Dry Wells	256	87.4
Service Wells	0	0
Total Wells	293	100.0
Average Depth per well	4,231	
Total Footage	1,239,657	
Development Wells		
Oil Wells	146	59.6
Gas Wells	3	1.2
Dry Wells	93	38.0
Service Wells	3	1.2
Total Wells	245	100.0
Average Depth per well	4,769	
Total Footage	1,168,361	
Total Wells		
Oil Wells	172	32.0
Gas Wells	14	2.6
Dry Wells	349	64.9
Service Wells	3	0.5
Total Wells	538	100.0
Average Depth per well	4,476	
Total Footage	2,408,018	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	4,424	29.7
Gas	173	1.1
Dry	10,308	69.2
Total	14,905	100.0

The Oil Producing Industry in NEVADA

Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	16
2.	Number of Counties with oil and/or gas production	1
3.	Total land area of State (acres)	70,328,960
4.	Area proved productive of oil and/or gas (acres)	3,800
5.	Estimated non-productive area leased January 1, 1981 (acres)	17,852,000
6.	Percent of total land area productive or leased	25.3
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 60,171
8.	Average field price of crude oil per barrel in 1980	$ 16.65
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 19,080
10.	Value at wells of natural gas produced in 1980 (Thous.)	Not Applicable
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 19,080
12.	Percent petroleum value to total all minerals	5.6%
13.	Principal mineral products in order of value:	
	1st	Gold
	2nd	Barite
	3rd	Sand & Gravel
14.	Number of employees engaged in crude oil and natural gas production	811
15.	First year of production of crude oil	1954
16.	First recorded production of crude oil (barrels) 1954	33,000
17.	Geophysical Activity—Crew months worked in 1980	47

Production & Reserves

18.	Year of largest production (crude oil)	1979
19.	Crude oil produced in year of largest production (barrels)	1,233,000
20.	Percent of crude oil produced by stripper wells	Not Applicable

21. Number of producing wells at end of 1980: Crude Oil 31
Gas & Condensate 0
Total 31

22. Average daily production of crude oil per well at end of 1980 115

23. Percent of wells pumping or on artificial lift 100.0%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	1,811	0	1,811
1978	3,167	0	3,167
1979	3,384	0	3,384
1980	3,131	0	3,131

25. Production and new reserves found in 1979:

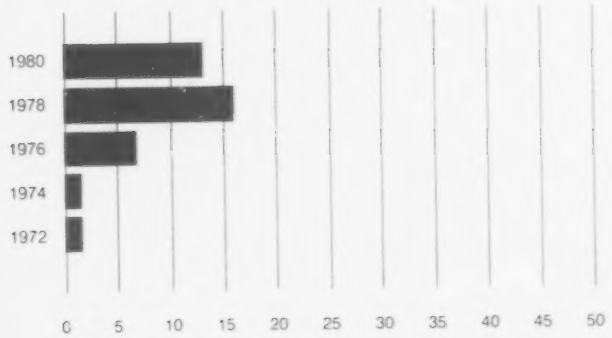
	Crude Oil	*Natural Gas Liquids* (Million Barrels)	*Total Liquids Petroleum*	*Natural Gas* (Bil. Cu. Ft.)
New Reserves Found	1.1	0	1.1	0
Estimated Production	1.3	0	1.3	0
Net Change in Reserves	-0.2	0	-0.2	0

26. Production and new reserves found all time to December 31, 1979:

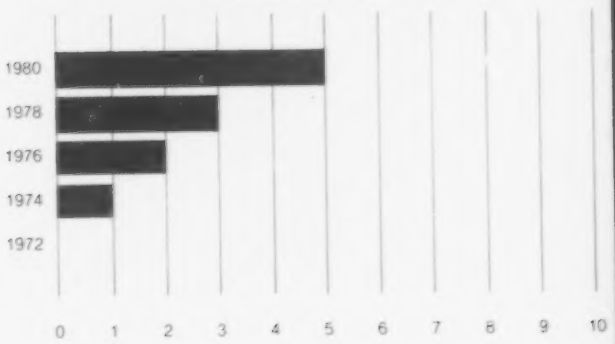
	Crude Oil	*Natural Gas Liquids* (Million Barrels)	*Total Liquids Petroleum*	*Natural Gas* (Bil. Cu. Ft.)
Total Reserves Found	8.2	0	8.2	0
Total Production	7.1	0	7.1	0
Proved Reserves Dec. 31, 1979	1.1*	0	1.1*	0

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 5

28. Deepest producing well drilled to January 1, 1981 ..... *Oil* 8,581

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 19,562

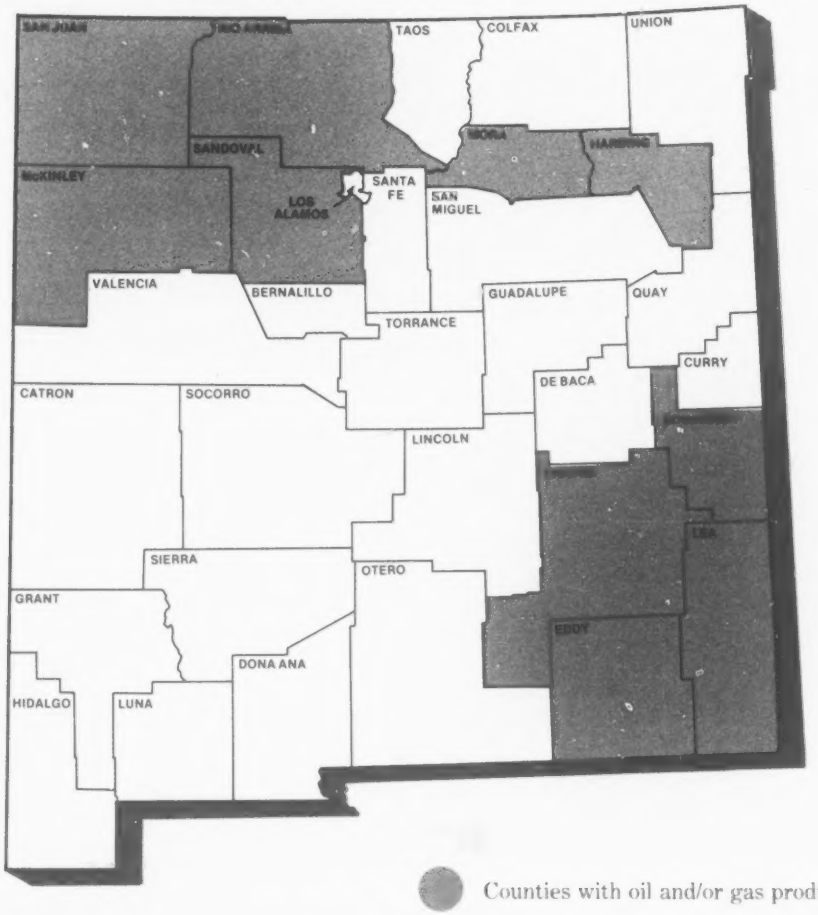
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	0	0
Gas Wells	0	0
Dry Wells	12	100.0
Service Wells	0	0
Total Wells	12	100.0
Average Depth per well	7,701	
Total Footage	92,407	
Development Wells		
Oil Wells	1	100.0
Gas Wells	0	0
Dry Wells	0	0
Service Wells	0	0
Total Wells	1	100.0
Average Depth per well	4,219	
Total Footage	4,219	
Total Wells		
Oil Wells	1	7.7
Gas Wells	0	0
Dry Wells	12	92.3
Service Wells	0	0
Total Wells	13	100.0
Average Depth per well	7,433	
Total Footage	96,626	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	29	12.3
Gas	0	0
Dry	206	87.7
Total	235	100.0

The Oil Producing Industry in NEW MEXICO



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	32
2.	Number of Counties with oil and/or gas production	10
3.	Total land area of State (acres)	77,703,680
4.	Area proved productive of oil and/or gas (acres)	3,330,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	26,800,000
6.	Percent of total land area productive or leased	38.7
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 12,292,418
8.	Average field price of crude oil per barrel in 1980	$ 24.15
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 1,822,260
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 1,918,004
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 3,740,264
12.	Percent petroleum value to total all minerals	79.9%
13.	Principal mineral products in order of value: 1st ... Natural Gas; 2nd ... Crude Petroleum; 3rd ... Copper	
14.	Number of employees engaged in crude oil and natural gas production	13,441
15.	First year of production of crude oil	1911
	natural gas	1924
16.	First recorded production of crude oil (barrels) ... 1924	98,000
	natural gas (Mcf) ... 1926	921
17.	Geophysical Activity—Crew months worked in 1980	120

Production & Reserves

18.	Year of largest production (crude oil)	1969
19.	Crude oil produced in year of largest production (barrels)	129,227,000
20.	Percent of crude oil produced by stripper wells	15.1%

21. Number of producing wells at end of 1980: Crude Oil 15,746
Gas & Condensate 13,843
Total 29,589

22. Average daily production of crude oil per well at end of 1980 ..... 13.1

23. Percent of wells pumping or on artificial lift 81.9%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	238,967	123,055	362,022
1978	228,397	120,236	348,633
1979	218,216	122,740*	340,956
1980	206,164	123,000*	329,164

25. Production and new reserves found in 1979:

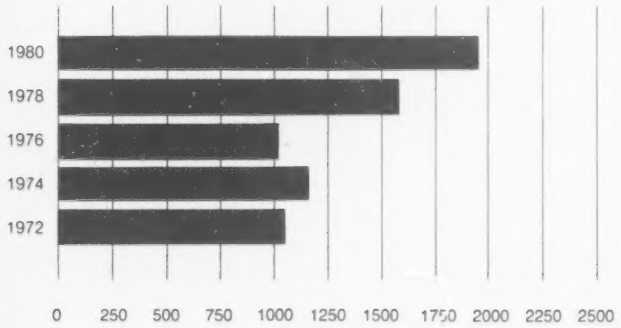
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	59	93	152	2,185
Estimated Production	75	49	124	1,149
Net Change in Reserves	-16	44	28	1,036

26. Production and new reserves found all time to December 31, 1979:

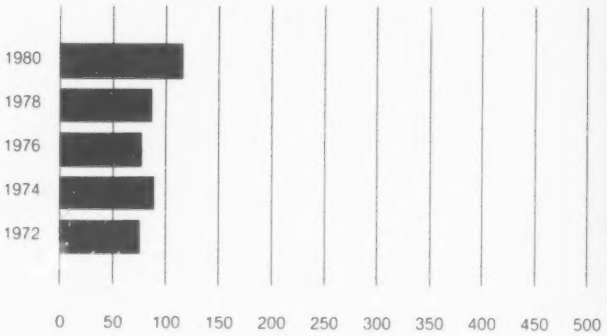
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	5,321	1,444	6,765	44,915
Total Production	4,758	914	5,672	31,191
Proved Reserves Dec. 31, 1979	563	530	1,093	13,724

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 118

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 17,544

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 22,296

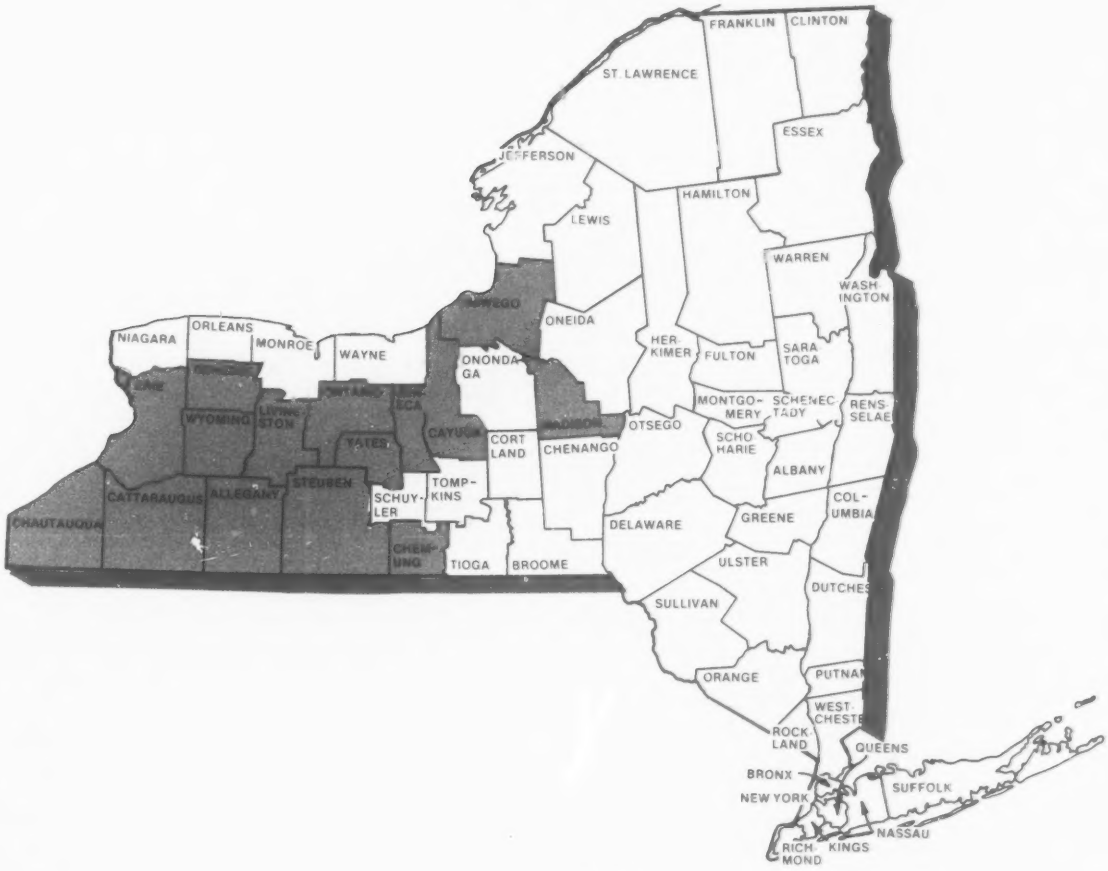
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	44	15.1
Gas Wells	98	33.6
Dry Wells	150	51.3
Service Wells	0	0
Total Wells	292	100.0
Average Depth per well	6,073	
Total Footage	1,773,257	
Development Wells		
Oil Wells	627	37.5
Gas Wells	898	53.6
Dry Wells	118	7.1
Service Wells	31	1.8
Total Wells	1,674	100.0
Average Depth per well	5,660	
Total Footage	9,474,425	
Total Wells		
Oil Wells	671	34.1
Gas Wells	996	50.7
Dry Wells	268	13.6
Service Wells	31	1.6
Total Wells	1,966	100.0
Average Depth per well	5,721	
Total Footage	11,247,682	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	25,349	50.8
Gas	13,682	27.4
Dry	10,904	21.8
Total	49,935	100.0

The Oil Producing Industry in NEW YORK



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	62
2.	Number of Counties with oil and/or gas production	15
3.	Total land area of State (acres)	30,611,840
4.	Area proved productive of oil and/or gas (acres)	1,000,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	4,500,000
6.	Percent of total land area productive or leased	17.9
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 844,431
8.	Average field price of crude oil per barrel in 1980	$ 37.50
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 31,575
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 25,925
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 57,500
12.	Percent petroleum value to total all minerals	8.7%
13.	Principal mineral products in order of value:	
	1st	Crushed Stone
	2nd	Salt
	3rd	Sand & Gravel
14.	Number of employees engaged in crude oil and natural gas production	2,202
15.	First year of production of crude oil	1865
	natural gas	1885
16.	First recorded production of crude oil (barrels) 1865	100,000
	natural gas (Mcf) 1885	3,136,000
17.	Geophysical Activity—Crew months worked in 1980	11

Production & Reserves

18.	Year of largest production (crude oil)	1882
19.	Crude oil produced in year of largest production (barrels)	6,685,000
20.	Percent of crude oil produced by stripper wells	100%

21. Number of producing wells at end of 1980: Crude Oil 0
Gas & Condensate 2,200
Total 2,200

22. Average daily production of crude oil per well at end of 1980 ..... 0.5

23. Percent of wells pumping or on artificial lift 100.0%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	2,258	0	2,258
1978	2,334	0	2,334
1979	2,342	0	2,342
1980	2,301	0	2,301

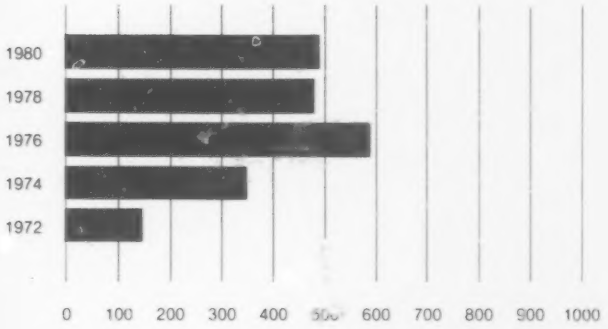
25. Production and new reserves found in 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	1.5	0	1.5	29
Estimated Production	.9	0	.9	11
Net Change in Reserves	.6	0	.6	18

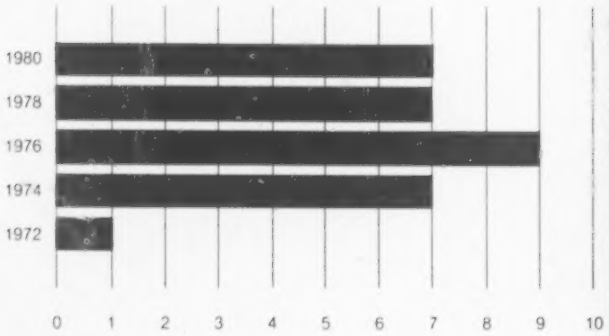
26. Production and new reserves found all time to December 31, 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	230	0	230	787
Total Production	220	0	220	576
Proved Reserves Dec. 31, 1979	10	0	10	211

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 7

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 5,425

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 13,500

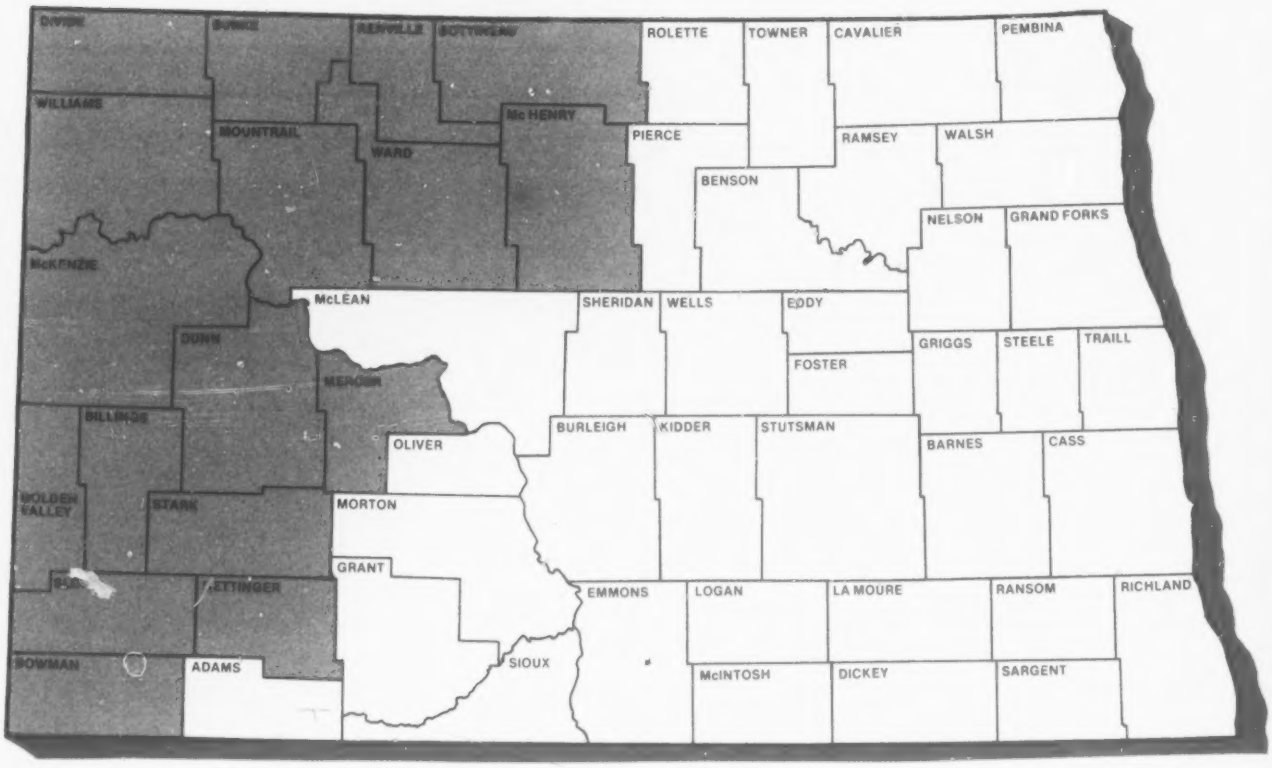
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	0	0
Gas Wells	16	80.0
Dry Wells	4	20.0
Service Wells	0	0
Total Wells	20	100.0
Average Depth per well	2,772	
Total Footage	55,443	
Development Wells		
Oil Wells	106	22.4
Gas Wells	344	72.6
Dry Wells	8	1.6
Service Wells	16	3.4
Total Wells	474	100.0
Average Depth per well	2,443	
Total Footage	1,157,955	
Total Wells		
Oil Wells	106	21.2
Gas Wells	360	72.2
Dry Wells	12	2.4
Service Wells	16	3.2
Total Wells	498	100.0
Average Depth per well	2,437	
Total Footage	1,213,398	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	8,847	73.8
Gas	2,188	18.3
Dry	951	7.9
Total	11,986	100.0

The Oil Producing Industry in NORTH DAKOTA



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	53
2.	Number of Counties with oil and/or gas production	17
3.	Total land area of State (acres)	44,334,720
4.	Area proved productive of oil and/or gas (acres)	473,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	21,826,000
6.	Percent of total land area productive or leased	50.2
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 3,411,389
8.	Average field price of crude oil per barrel in 1980	$ 26.50
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 1,060,370
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 66,234
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 1,126,604
12.	Percent petroleum value to total all minerals	77.7%
13.	Principal mineral products in order of value:	
	1st ..... Crude Petroleum	
	2nd ..... Coal	
	3rd ..... Natural Gas	
14.	Number of employees engaged in crude oil and natural gas production	6,314
15.	First year of production of crude oil	1951
	natural gas	1907
16.	First recorded production of crude oil (barrels) 1951	25,000
	natural gas (Mcf) 1928	200
17.	Geophysical Activity—Crew months worked in 1980	242

Production & Reserves

18.	Year of largest production (crude oil)	1979
19.	Crude oil produced in year of largest production (barrels)	30,578,000
20.	Percent of crude oil produced by stripper wells	4.0%

21. Number of producing wells at end of 1980: Crude Oil 554
Gas & Condensate 52
Total 606

22. Average daily production of crude oil per well at end of 1980 ..... 46.1

23. Percent of wells pumping or on artificial lift 75.8%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	63,762	4,293	68,055
1978	67,978	4,447	72,425
1979	84,696	6,027*	90,723
1980	109,328	6,600*	115,928

25. Production and new reserves found in 1979:

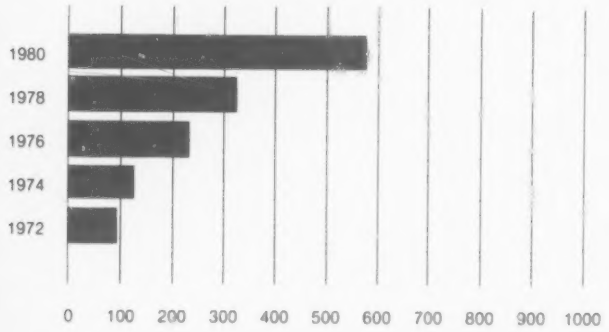
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	79	14	93	95
Estimated Production	30	3	33	30
Net Change in Reserves	49	11	60	65

26. Production and new reserves found all time to December 31, 1979:

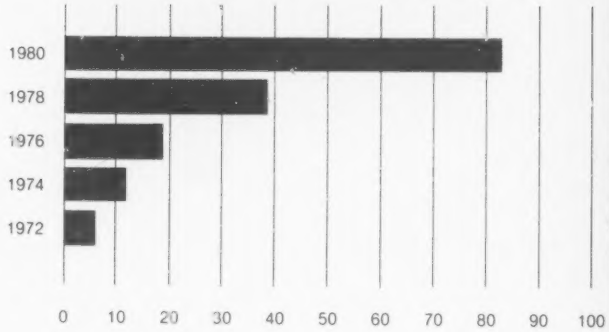
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	766	104	870	1,302
Total Production	555	57	612	863
Proved Reserves Dec. 31, 1979	211	47	258	439

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 83
28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 14,343
29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 15,380
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	75	31.0
Gas Wells	3	1.2
Dry Wells	164	67.8
Service Wells	0	0
Total Wells	242	100.0
Average Depth per well	10,092	
Total Footage	2,442,377	
Development Wells		
Oil Wells	280	81.4
Gas Wells	12	3.5
Dry Wells	51	14.8
Service Wells	1	0.3
Total Wells	344	100.0
Average Depth per well	9,038	
Total Footage	3,108,985	
Total Wells		
Oil Wells	355	60.6
Gas Wells	15	2.6
Dry Wells	215	36.7
Service Wells	1	0.1
Total Wells	586	100.0
Average Depth per well	9,473	
Total Footage	5,551,362	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	3,601	49.4
Gas	39	0.6
Dry	3,645	50.0
Total	7,285	100.0

The Oil Producing Industry in OHIO

Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	88
2.	Number of Counties with oil and/or gas production	68
3.	Total land area of State (acres)	26,224,000
4.	Area proved productive of oil and/or gas (acres)	2,861,927
5.	Estimated non-productive area leased January 1, 1981 (acres)	13,665,450
6.	Percent of total land area productive or leased	63.0
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 2,658,670
8.	Average field price of crude oil per barrel in 1980	$ 34.21
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 428,240
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 255,360
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 683,600
12.	Percent petroleum value to total all minerals	23.0%
13.	Principal mineral products in order of value:	
	1st	Coal
	2nd	Crude Petroleum
	3rd	Natural Gas
14.	Number of employees engaged in crude oil and natural gas production	9,823
15.	First year of production of crude oil	1860
	natural gas	1884
16.	First recorded production of crude oil (barrels) 1876	32,000
	natural gas (Mcf) 1884	800
17.	Geophysical Activity—Crew months worked in 1980	3

Production & Reserves

18.	Year of largest production (crude oil)	1896
19.	Crude oil produced in year of largest production (barrels)	23,941,000
20.	Percent of crude oil produced by strip-per wells	69.9%

21. Number of producing wells at end of 1980: Crude Oil 20,451
Gas & Condensate 16,845
Total 37,296

22. Average daily production of crude oil per well at end of 1980 ..... 1.7

23. Percent of wells pumping or on artificial lift 98.0%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	28,381	0	28,381
1978	30,559	0	30,559
1979	32,748	0	32,748
1980	34,202	0*	34,202

25. Production and new reserves found in 1979:

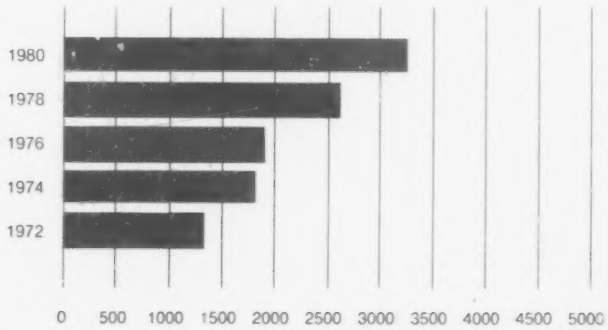
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	22	0	22	900
Estimated Production	9	0	9	105
Net Change in Reserves	13	0	13	795

26. Production and new reserves found all time to December 31, 1979:

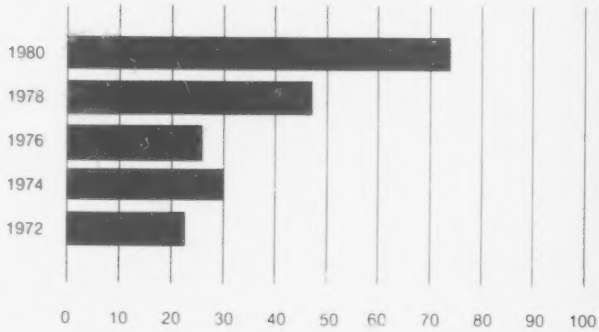
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	934	8	942	7,082
Total Production	852	8	860	5,603
Proved Reserves Dec. 31, 1979	82	0	82	1,479

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 74

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 3,488

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 11,442

30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	10	16.7
Gas Wells	46	76.7
Dry Wells	4	6.6
Service Wells	0	0
Total Wells	60	100.0
Average Depth per well	3,836	
Total Footage	230,143	
Development Wells		
Oil Wells	1,278	39.8
Gas Wells	1,867	58.2
Dry Wells	64	2.0
Service Wells	0	0
Total Wells	3,209	100.0
Average Depth per well	3,537	
Total Footage	11,350,388	
Total Wells		
Oil Wells	1,288	39.4
Gas Wells	1,913	58.5
Dry Wells	68	2.1
Service Wells	0	0
Total Wells	3,269	100.0
Average Depth per well	3,543	
Total Footage	11,580,531	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	63,662	46.7
Gas	37,562	27.5
Dry	35,228	25.8
Total	136,452	100.0

The Oil Producing Industry in OKLAHOMA

Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	77
2.	Number of Counties with oil and/or gas production	73
3.	Total land area of State (acres)	44,020,480
4.	Area proved productive of oil and/or gas (acres)	3,769,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	13,117,900
6.	Percent of total land area productive or leased	38.3
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 36,870,500
8.	Average field price of crude oil per barrel in 1980	$ 31.75
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 4,824,730
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 2,714,765
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 7,539,495
12.	Percent petroleum value to total all minerals	91.1%
13.	Principal mineral products in order of value: 1st ..... Crude Petroleum; 2nd ..... Natural Gas; 3rd ..... Coal	
14.	Number of employees engaged in crude oil and natural gas production	68,300
15.	First year of production of crude oil	1891
	natural gas	1902
16.	First recorded production of crude oil (barrels) 1891	30
	natural gas (Mcf) 1906	3,520
17.	Geophysical Activity—Crew months worked in 1980	169

Production & Reserves

18.	Year of largest production (crude oil)	1927
19.	Crude oil produced in year of largest production (barrels)	277,775,000
20.	Percent of crude oil produced by stripper wells	—52.9%

21. Number of producing wells at end of 1980: Crude Oil 78,463
Gas & Condensate 15,245
Total 93,708

22. Average daily production of crude oil per well at end of 1980 ..... 5.1

23. Percent of wells pumping or on artificial lift 94.4%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	428,444	114,775	543,219
1978	412,208	121,559	533,767
1979	393,540	138,082	531,622
1980	415,191	146,500*	561,691

25. Production and new reserves found in 1979:

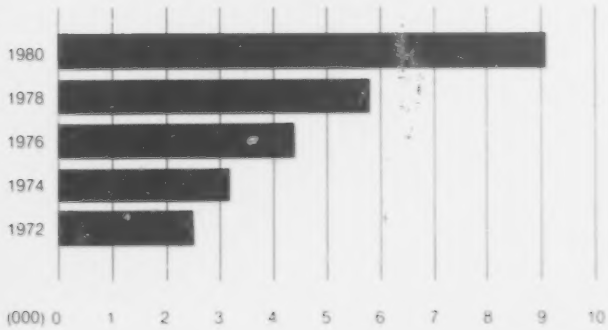
	Crude Oil	*Natural Gas Liquids* (Million Barrels)	*Total Liquids Petroleum*	*Natural Gas* (Bil. Cu. Ft.)
New Reserves Found	161	54	215	991
Estimated Production	126	67	193	1,592
Net Change in Reserves	35	-13	22	-601

26. Production and new reserves found all time to December 31, 1979:

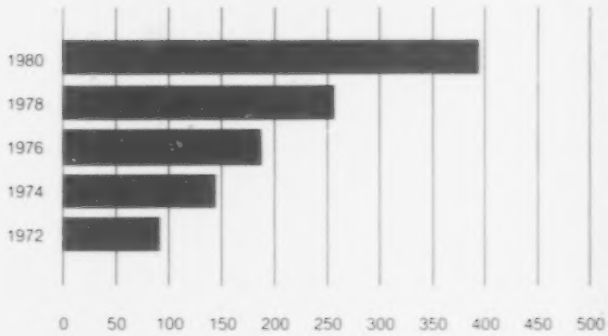
	Crude Oil	*Natural Gas Liquids* (Million Barrels)	*Total Liquids Petroleum*	*Natural Gas* (Bil. Cu. Ft.)
Total Reserves Found	12,859	2,891	15,750	64,606
Total Production	11,845	2,308	14,153	50,790
Proved Reserves Dec. 31, 1979	1,014	583	1,597	13,816

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 397

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 24,996

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 31,441

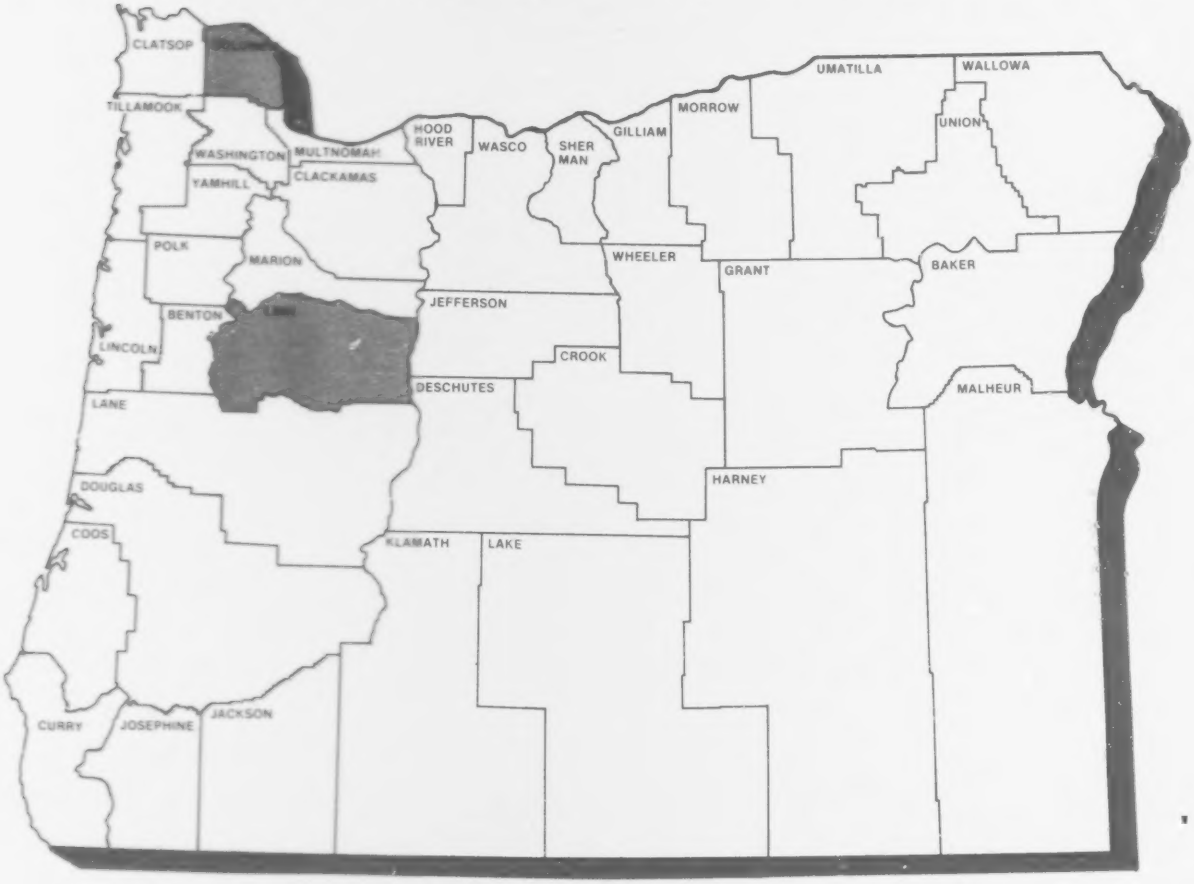
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	92	18.1
Gas Wells	114	22.4
Dry Wells	302	59.5
Service Wells	0	0
Total Wells	508	100.0
Average Depth per well	7,259	
Total Footage	3,687,467	
Development Wells		
Oil Wells	4,600	53.7
Gas Wells	1,949	22.8
Dry Wells	1,984	23.2
Service Wells	32	0.3
Total Wells	8,565	100.0
Average Depth per well	4,525	
Total Footage	38,758,337	
Total Wells		
Oil Wells	4,692	51.7
Gas Wells	2,063	22.7
Dry Wells	2,286	25.2
Service Wells	32	0.4
Total Wells	9,073	100.0
Average Depth per well	4,678	
Total Footage	42,445,804	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	202,671	60.9
Gas	34,035	10.2
Dry	96,132	28.9
Total	332,838	100.0

The Oil Producing Industry in OREGON



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	36
2.	Number of Counties with oil and/or gas production	2
3.	Total land area of State (acres)	62,067,840
4.	Area proved productive of oil and/or gas (acres)	1,120
5.	Estimated non-productive area leased January 1, 1981 (acres)	4,000,000
6.	Percent of total land area productive or leased	6.4
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	39
8.	Average field price of crude oil per barrel in 1980	$ 1.35
9.	Value at wells of crude oil produced in 1980 (Thous.)	Not Applicable
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 11.3
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 11.3
12.	Percent petroleum value to total all minerals	Not Applicable
13.	Principal mineral products in order of value:	
	1st	Stone
	2nd	Sand & Gravel
	3rd	Pumice
14.	Number of employees engaged in crude oil and natural gas production	136
15.	First year of production of natural gas	1979
16.	First recorded production of natural gas (Mcf) 1979	15,160
17.	Geophysical Activity—Crew months worked in 1980	9

Production & Reserves

18.	Year of largest production (natural gas)	1979
19.	Natural gas produced in year of largest production (Mcf)	15,160
20.	Percent of crude oil produced by stripper wells	Not Applicable

21. Number of producing wells at end of 1980: Gas & Condensate..... 4*

22. Average daily production of natural gas per well at end of 1980 (Mcf)..... 13*

23. Percent of wells pumping or on artificial lift ..... Not Applicable

24. Average production in Mcf daily:

	Crude Oil	*Natural Gas*	*Total Petroleum Liquids*
1977	0	0	0
1978	0	0	0
1979	0	41*	41*
1980	0	75*	75*

25. Production and new reserves found in 1979:

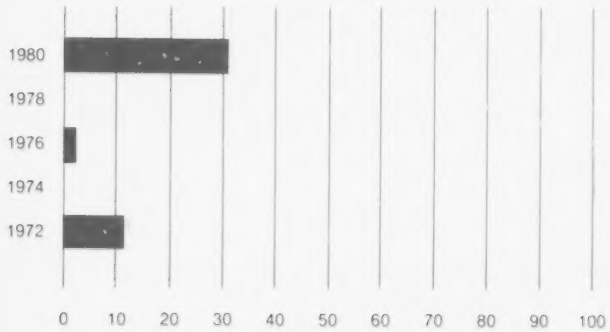
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	0	0	0	.2*
Estimated Production	0	0	0	0
Net Change in Reserves	0	0	0	.2*

26. Production and new reserves found all time to December 31, 1979:

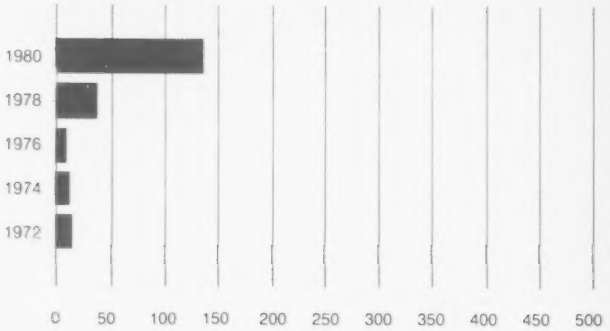
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	0	0	0	.2*
Total Production	0	0	0	0
Proved Reserves Dec. 31, 1979	0	0	0	.2*

*Estimated

TOTAL WELLS DRILLED



NUMBER OF EMPLOYEES ENGAGED IN CRUDE OIL & NATURAL GAS PRODUCTION



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) ..... < 1

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 3,177

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 13,177

30. Wells and footage drilled in 1980:

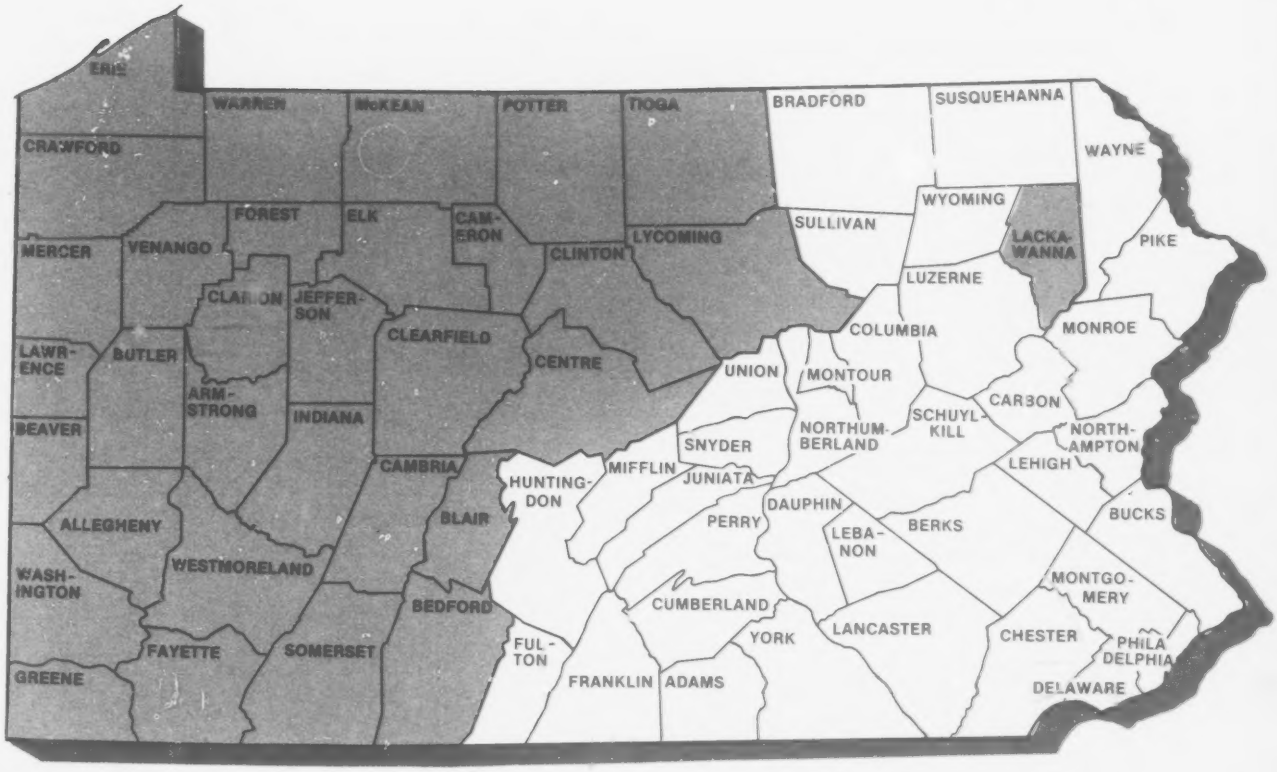
	Number	*Percent*
Wildcat Wells		
Oil Wells	0	0
Gas Wells	1	4.6
Dry Wells	21	95.4
Service Wells	0	0
Total Wells	22	100.0
Average Depth per well	3,175	
Total Footage	69,855	
Development Wells		
Oil Wells	0	0
Gas Wells	1	11.1
Dry Wells	8	88.9
Service Wells	0	0
Total Wells	9	100.0
Average Depth per well	2,775	
Total Footage	24,976	
Total Wells		
Oil Wells	0	0
Gas Wells	2	6.5
Dry Wells	29	93.5
Service Wells	0	0
Total Wells	31	100.0
Average Depth per well	3,059	
Total Footage	94,831	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	0	0
Gas	7	2.8
Dry	247	97.2
Total	254	100.0

< Less than

The Oil Producing Industry in PENNSYLVANIA



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	67
2.	Number of Counties with oil and/or gas production	32
3.	Total land area of State (acres)	28,778,240
4.	Area proved productive of oil and/or gas (acres)	2,625,160
5.	Estimated non-productive area leased January 1, 1981 (acres)	14,385,000
6.	Percent of total land area productive or leased	59.1
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 3,208,825
8.	Average field price of crude oil per barrel in 1980	$ 37.50
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 130,350
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 155,946
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 286,296
12.	Percent petroleum value to total all minerals	5.4%
13.	Principal mineral products in order of value:	
	1st ..... Coal	
	2nd ..... Portland Cement	
	3rd ..... Crushed Stone	
14.	Number of employees engaged in crude oil and natural gas production	4,117
15.	First year of production of crude oil	1859
	natural gas	1881
16.	First recorded production of crude oil (barrels) 1859	2,000
	natural gas (Mcf) 1882	600,000
17.	Geophysical Activity—Crew months worked in 1980	39

Production & Reserves

18.	Year of largest production (crude oil)	1891
19.	Crude oil produced in year of largest production (barrels)	31,424,000
20.	Percent of crude oil produced by stripper wells	97.9%

21. Number of producing wells at end of 1980: Crude Oil 27,925
Gas & Condensate 19,700
Total 47,625

22. Average daily production of crude oil per well at end of 1980 ..... 0.4

23. Percent of wells pumping or on artificial lift 99.7%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	7,438	104*	7,542
1978	7,910	137*	8,047
1979	7,874	110*	7,984
1980	9,497	100*	9,597

25. Production and new reserves found in 1979:

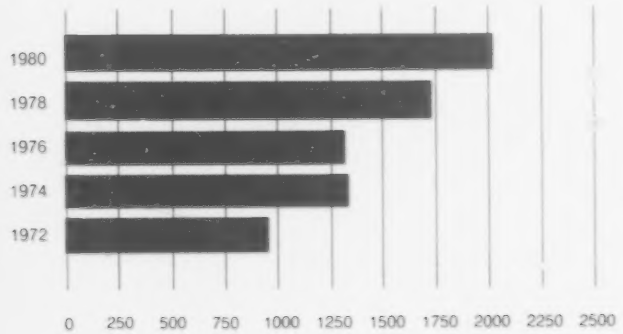
	Crude Oil	*Natural Gas Liquids* (Million Barrels)	*Total Liquids Petroleum*	*Natural Gas* (Bil. Cu. Ft.)
New Reserves Found	8	0	8	733
Estimated Production	2	0	2	117
Net Change in Reserves	6	0	6	616

26. Production and new reserves found all time to December 31, 1979:

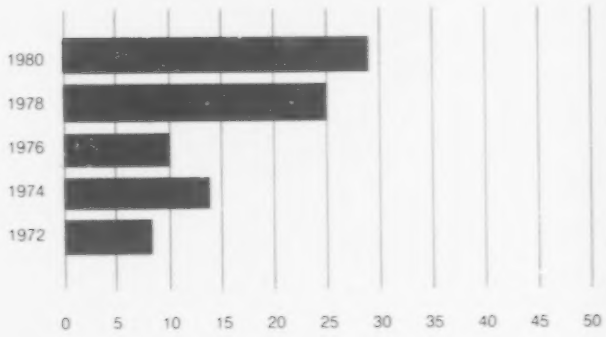
	Crude Oil	*Natural Gas Liquids* (Million Barrels)	*Total Liquids Petroleum*	*Natural Gas* (Bil. Cu. Ft.)
Total Reserves Found	1,330	16	1,346	10,835
Total Production	1,297	15	1,312	9,320
Proved Reserves Dec. 31, 1979	33	1	34	1,515

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 29

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 11,458

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 21,460

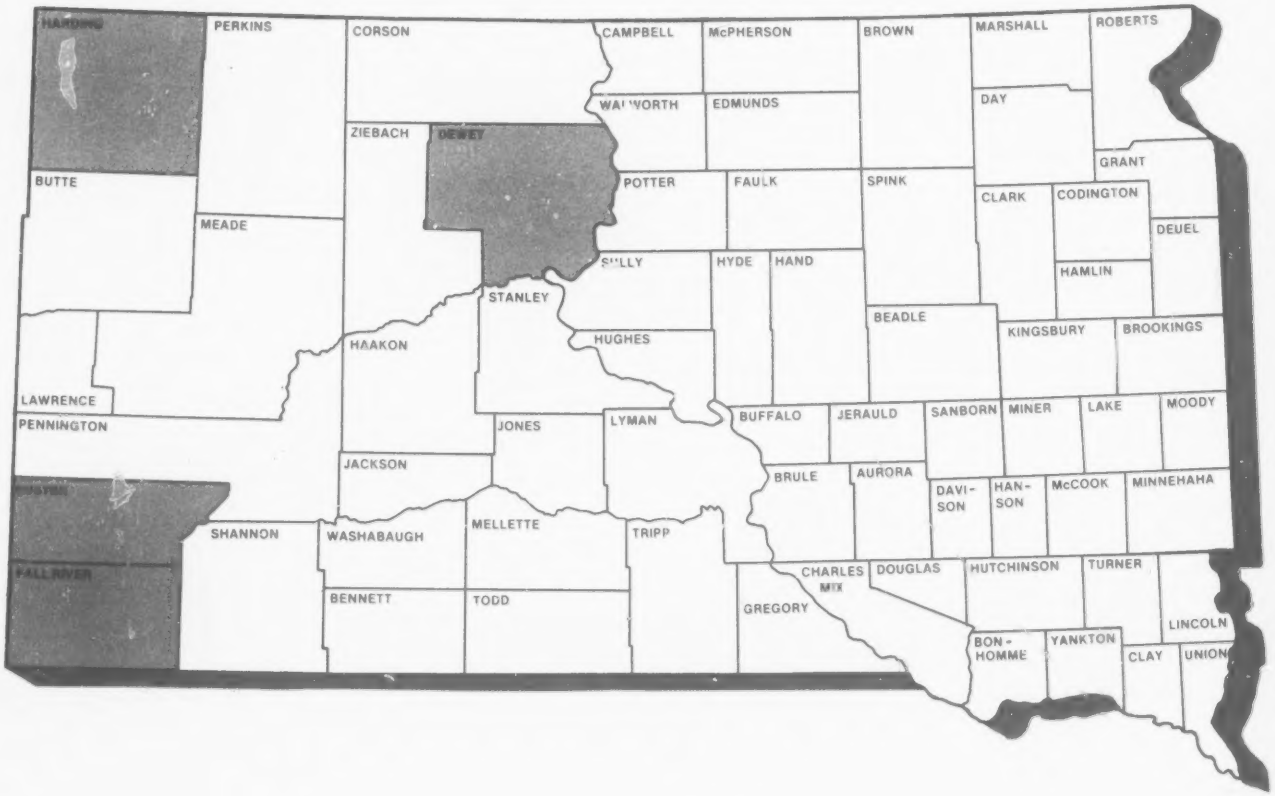
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	11	8.4
Gas Wells	101	77.1
Dry Wells	19	14.5
Service Wells	0	0
Total Wells	131	100.0
Average Depth per well	4,753	
Total Footage	622,645	
Development Wells		
Oil Wells	791	41.9
Gas Wells	998	52.8
Dry Wells	36	1.9
Service Wells	64	3.4
Total Wells	1,889	100.0
Average Depth per well	2,561	
Total Footage	4,838,643	
Total Wells		
Oil Wells	802	39.7
Gas Wells	1,099	54.4
Dry Wells	55	2.7
Service Wells	64	3.2
Total Wells	2,020	100.0
Average Depth per well	2,704	
Total Footage	5,461,288	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	241,988	80.0
Gas	22,215	7.4
Dry	38,176	12.6
Total	302,379	100.0

The Oil Producing Industry in SOUTH DAKOTA



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	67
2.	Number of Counties with oil and/or gas production	4
3.	Total land area of State (acres)	48,611,200
4.	Area proved productive of oil and/or gas (acres)	19,500
5.	Estimated non-productive area leased January 1, 1981 (acres)	7,438,000
6.	Percent of total land area productive or leased	15.3
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 76,362
8.	Average field price of crude oil per barrel in 1980	$ 28.65
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 22,605
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 2,093
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 24,698
12.	Percent petroleum value to total all minerals	16.9%
13.	Principal mineral products in order of value:	
	1st	Gold
	2nd	Portland Cement
	3rd	Crude Petroleum
14.	Number of employees engaged in crude oil and natural gas production	108
15.	First year of production of crude oil	1953
	natural gas	1899
16.	First recorded production of crude oil (barrels) 1954	37,000
	natural gas (Mcf) 1906	22,900
17.	Geophysical Activity—Crew months worked in 1980	2

Production & Reserves

18.	Year of largest production (crude oil)	1978
19.	Crude oil produced in year of largest production (barrels)	869,000
20.	Percent of crude oil produced by stripper wells	2.6%

21. Number of producing wells at end of 1980: Crude Oil 118
    Gas & Condensate 0
    Total 118

22. Average daily production of crude oil per well at end of 1980 ..... 20.3

23. Percent of wells pumping or on artificial lift 97.4%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	1,732	160*	1,892
1978	2,381	236*	2,617
1979	2,318	137*	2,455
1980	2,156	150*	2,306

25. Production and new reserves found in 1979:

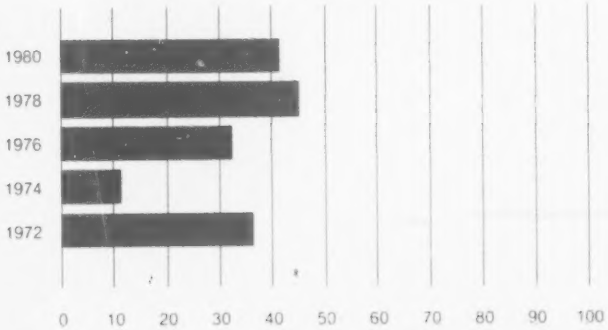
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	1.0	0	1.0	0
Estimated Production	.8	0	.8	0
Net Change in Reserves	.2	0	.2	0

26. Production and new reserves found all time to December 31, 1979:

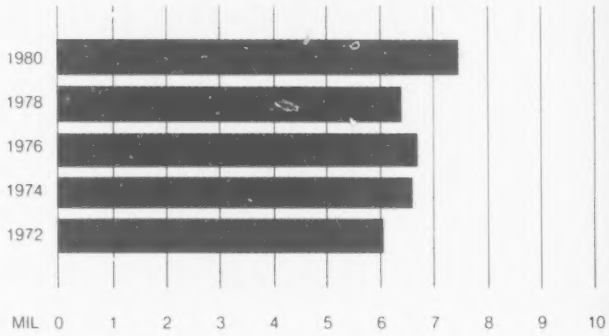
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	9.9	0	9.9	.5
Total Production	6.9	0	6.9	.3
Proved Reserves Dec. 31, 1979	3.0*	0	3.0*	.2

*Estimated

TOTAL WELLS DRILLED



ACREAGE UNDER LEASE FOR OIL & GAS



Exploration & Development

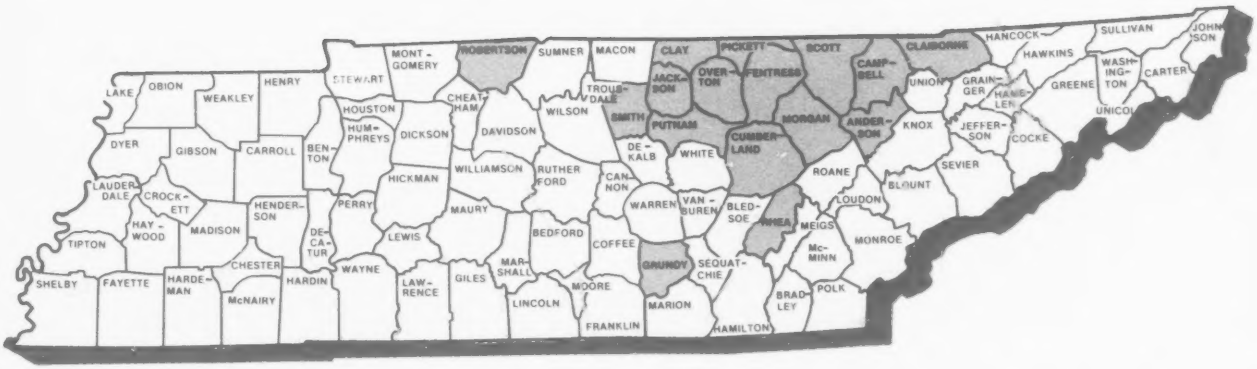
27. Rotary Drilling Rigs Active in 1980 (average) 2
28. Deepest producing well drilled to January 1, 1981 ..... *Oil* 9,150
29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 9,771
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	1	5.9
Gas Wells	0	0
Dry Wells	16	94.1
Service Wells	0	0
Total Wells	17	100.0
Average Depth per well	3,011	
Total Footage	51,189	
Development Wells		
Oil Wells	10	41.7
Gas Wells	4	16.7
Dry Wells	9	37.5
Service Wells	1	4.1
Total Wells	24	100.0
Average Depth per well	5,827	
Total Footage	139,842	
Total Wells		
Oil Wells	11	26.8
Gas Wells	4	9.8
Dry Wells	25	61.0
Service Wells	1	2.4
Total Wells	41	100.0
Average Depth per well	4,659	
Total Footage	191,031	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	122	15.2
Gas	19	2.4
Dry	662	82.4
Total	803	100.0

The Oil Producing Industry in TENNESSEE



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	95
2.	Number of Counties with oil and/or gas production	16
3.	Total land area of State (acres)	26,449,920
4.	Area proved productive of oil and/or gas (acres)	22,160
5.	Estimated non-productive area leased January 1, 1981 (acres)	6,500,000
6.	Percent of total land area productive or leased	24.6
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 82,170
8.	Average field price of crude oil per barrel in 1980	$ 34.08
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 25,290
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 2,116
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 27,406
12.	Percent petroleum value to total all minerals	2.4%
13.	Principal mineral products in order of value:	
	1st	Coal
	2nd	Portland Cement
	3rd	Sand & Gravel
14.	Number of employees engaged in crude oil and natural gas production	2,771
15.	First year of production of crude oil	1860
	natural gas	1889
16.	First recorded production of crude oil (barrels) 1916	1,000
	natural gas (Mcf) 1905	1
17.	Geophysical Activity—Crew months worked in 1980	30

Production & Reserves

18.	Year of largest production (crude oil)	1977
19.	Crude oil produced in year of largest production (barrels)	820,000
20.	Percent of crude oil produced by stripper wells	63.0%

21. Number of producing wells at end of 1980: Crude Oil 441
Gas & Condensate 200
Total 641

22. Average daily production of crude oil per well at end of 1980 ..... 2.7

23. Percent of wells pumping or on artificial lift 75.9%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	2,247	0	2,247
1978	1,625	0	1,625
1979	1,682	0	1,682
1980	2,027	0	2,027

25. Production and new reserves found in 1979:

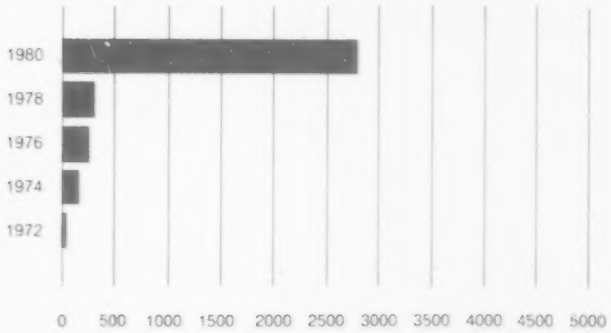
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	.7*	0	.7*	0
Estimated Production	.6	0	.6	0
Net Change in Reserves	.1	0	.1	0

26. Production and new reserves found all time to December 31, 1979:

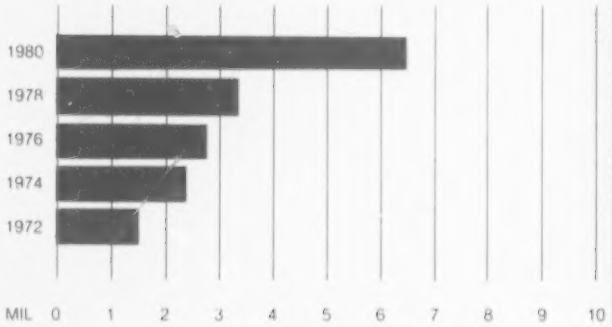
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	8.6	0	8.6	13.5
Total Production	6.0	0	6.0	3.4
Proved Reserves Dec. 31, 1979	2.6*	0	2.6*	12.1

*Estimated

NUMBER OF EMPLOYEES ENGAGED IN CRUDE OIL & NATURAL GAS PRODUCTION



ACREAGE UNDER LEASE FOR OIL & GAS



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) ..... <1

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 3,059

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 10,748

30. Wells and footage drilled in 1980:

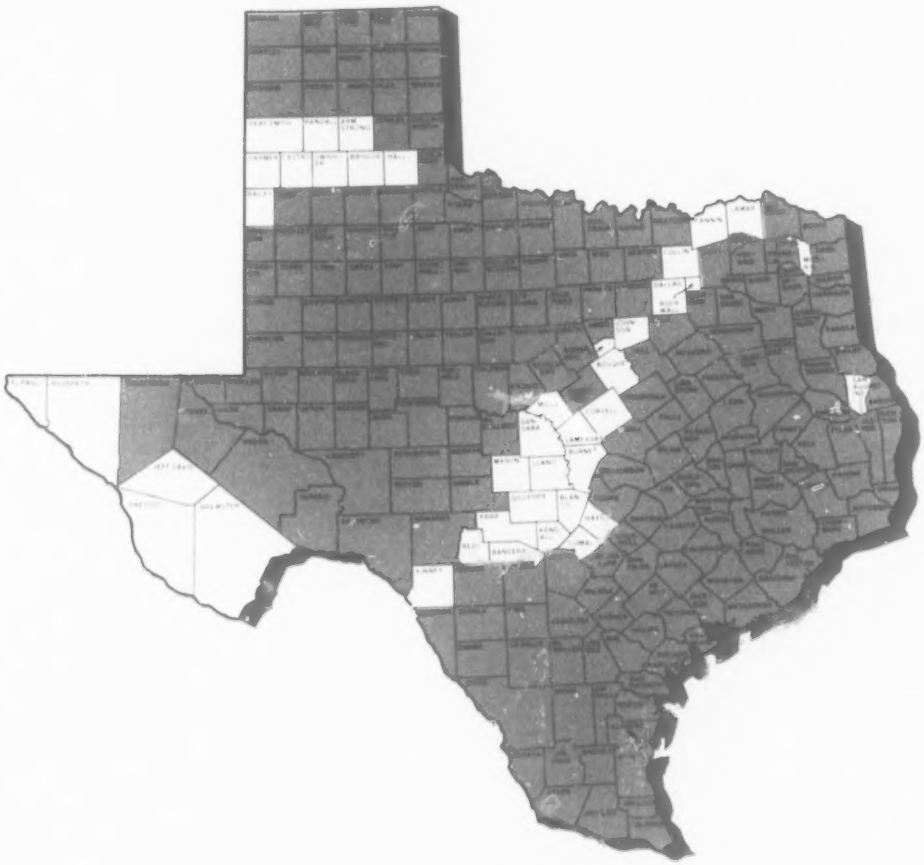
	Number	*Percent*
Wildcat Wells		
Oil Wells	50	26.6
Gas Wells	86	45.7
Dry Wells	52	27.7
Service Wells	0	0
Total Wells	188	100.0
Average Depth per well	1,627	
Total Footage	305,809	
Development Wells		
Oil Wells	62	40.8
Gas Wells	82	54.0
Dry Wells	8	5.2
Service Wells	0	0
Total Wells	152	100.0
Average Depth per well	1,602	
Total Footage	243,575	
Total Wells		
Oil Wells	112	32.9
Gas Wells	168	49.4
Dry Wells	60	17.7
Service Wells	0	0
Total Wells	340	100.0
Average Depth per well	1,616	
Total Footage	549,384	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	888	24.6
Gas	681	18.8
Dry	2,046	56.6
Total	3,615	100.0

< Less than

The Oil Producing Industry in TEXAS



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	254
2.	Number of Counties with oil and/or gas production	214
3.	Total land area of State (acres)	167,765,760
4.	Area proved productive of oil and/or gas (acres)	10,900,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	49,074,600
6.	Percent of total land area productive or leased	35.8
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$173,141,003
8.	Average field price of crude oil per barrel in 1980	$ 21.95
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 21,406,495
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 11,076,378
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 32,482,873
12.	Percent petroleum value to total all minerals	94.2%
13.	Principal mineral products in order of value:	
	1st ..... Crude Petroleum	
	2nd ..... Natural Gas	
	3rd ..... Portland Cement	
14.	Number of employees engaged in crude oil and natural gas production	231,170
15.	First year of production of crude oil	1889
	natural gas	1889
16.	First recorded production of crude oil (barrels) 1890	48
	natural gas (Mcf) 1906	1,000
17.	Geophysical Activity—Crew months worked in 1980	1,438

Production & Reserves

18.	Year of largest production (crude oil)	1972
19.	Crude oil produced in year of largest production (barrels)	1,301,154,000
20.	Percent of crude oil produced by stripper wells	13.4%

21. Number of producing wells at end of 1980: Crude Oil 174,511
Gas & Condensate 37,819
Total 212,330

22. Average daily production of crude oil per well at end of 1980 ..... 15.1

23. Percent of wells pumping or on artificial lift 90.5%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	3,117,479	777,458	3,894,937
1978	2,942,603	728,208	3,670,811
1979	2,789,299	690,685*	3,479,984
1980	2,664,587	690,900*	3,355,487

25. Production and new reserves found in 1979:

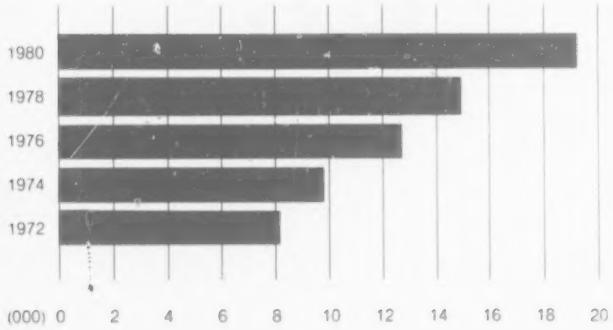
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	364	224	588	4,028
Estimated Production	991	305	1,296	6,590
Net Change in Reserves	-627	-81	-708	-2,562

26. Production and new reserves found all time to December 31, 1979:

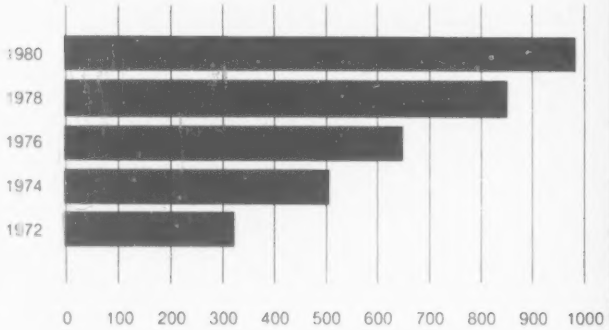
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	53,184	11,624	64,808	277,014
Total Production	44,900	9,142	54,042	223,993
Proved Reserves Dec. 31, 1979	8,284	2,482	10,766	53,021

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 987

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 26,518

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 29,622

30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	552	12.9
Gas Wells	971	22.7
Dry Wells	2,751	64.4
Service Wells	0	0
Total Wells	4,274	100.0
Average Depth per well	6,386	
Total Footage	27,295,714	
Development Wells		
Oil Wells	9,116	60.9
Gas Wells	2,713	18.1
Dry Wells	2,594	17.3
Service Wells	547	3.7
Total Wells	14,970	100.0
Average Depth per well	4,828	
Total Footage	72,276,902	
Total Wells		
Oil Wells	9,668	50.2
Gas Wells	3,684	19.1
Dry Wells	5,345	27.8
Service Wells	556	2.9
Total Wells	19,253	100.0
Average Depth per well	5,172	
Total Footage	99,572,616	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	418,113	59.1
Gas	55,645	7.9
Dry	233,994	33.0
Total	707,752	100.0

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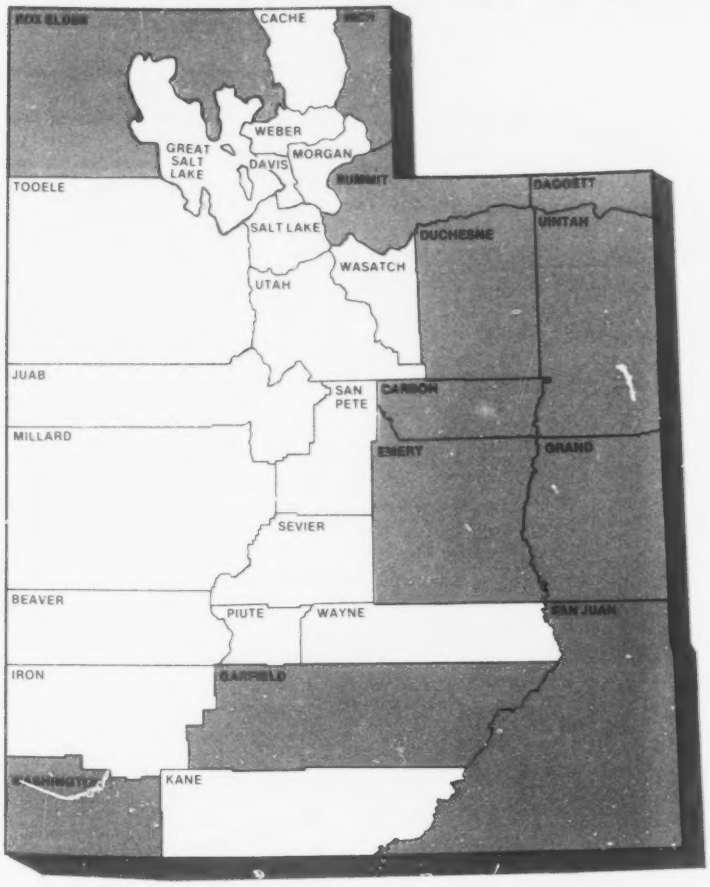
The Oil Producing Industry in UTAH



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	29
2.	Number of Counties with oil and/or gas production	12
3.	Total land area of State (acres)	52,541,440
4.	Area proved productive of oil and/or gas (acres)	345,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	29,174,000
6.	Percent of total land area productive or leased	56.1
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 3,653,372
8.	Average field price of crude oil per barrel in 1980	$ 19.71
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 506,960
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 83,715
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 590,675
12.	Percent petroleum value to total all minerals	30.3%
13.	Principal mineral products in order of value:	
	1st	Copper
	2nd	Crude Petroleum
	3rd	Coal
14.	Number of employees engaged in crude oil and natural gas production	4,520
15.	First year of production of crude oil	1907
	natural gas	1886
16.	First recorded production of crude oil (barrels) 1924	3,000
	natural gas (Mcf) 1927	927
17.	Geophysical Activity—Crew months worked in 1980	158

Production & Reserves

18.	Year of largest production (crude oil)	1975
19.	Crude oil produced in year of largest production (barrels)	42,301,000
20.	Percent of crude oil produced by stripper wells	0.6%

21. Number of producing wells at end of 1980: Crude Oil 1,478
Gas & Condensate 2,853
Total 4,331

22. Average daily production of crude oil per well at end of 1980 ..... 48.3

23. Percent of wells pumping or on artificial lift 70.5%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	90,721	8,510*	99,231
1978	85,940	7,267*	93,207
1979	75,967	7,945*	83,912
1980	70,276	8,000*	78,276

25. Production and new reserves found in 1979:

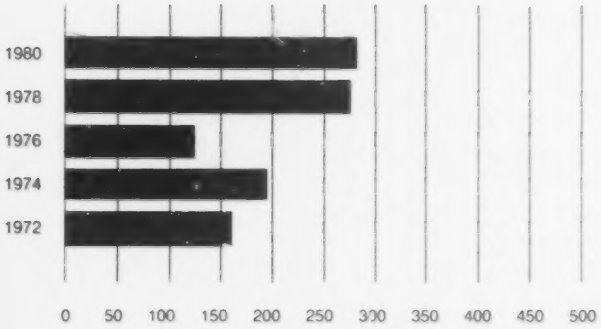
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	43	9	52	77
Estimated Production	30	3	33	54
Net Change in Reserves	13	6	19	23

26. Production and new reserves found all time to December 31, 1979:

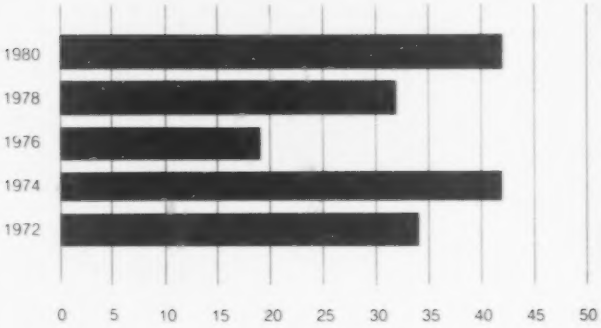
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	879	111	990	2,321
Total Production	678	52	730	1,373
Proved Reserves Dec. 31, 1979	201	59	260	948

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 42

28. Deepest producing well drilled to January 1, 1981 ..... *Oil* 17,732

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 21,845

30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	7	7.7
Gas Wells	14	15.4
Dry Wells	70	76.9
Service Wells	0	0
Total Wells	91	100.0
Average Depth per well	6,490	
Total Footage	590,551	
Development Wells		
Oil Wells	59	31.2
Gas Wells	84	44.4
Dry Wells	43	22.8
Service Wells	3	1.6
Total Wells	189	100.0
Average Depth per well	5,600	
Total Footage	1,058,439	
Total Wells		
Oil Wells	66	23.6
Gas Wells	98	35.0
Dry Wells	113	40.4
Service Wells	3	1.0
Total Wells	280	100.0
Average Depth per well	5,889	
Total Footage	1,648,990	

31. Total w[illegible] drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	2,335	39.0
Gas	777	13.0
Dry	2,869	48.0
Total	5,981	100.0

The Oil Producing Industry in VIRGINIA

Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	96
2.	Number of Counties with oil and/or gas production	6
3.	Total land area of State (acres)	25,459,200
4.	Area proved productive of oil and/or gas (acres)	81,936
5.	Estimated non-productive area leased January 1, 1981 (acres)	2,971,214
6.	Percent of total land area productive or leased	8.6
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 1,452
8.	Average field price of crude oil per barrel in 1980	$ 37.21
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 372
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 16,800
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 17,172
12.	Percent petroleum value to total all minerals	0.9%
13.	Principal mineral products in order of value: 1st ..... Coal; 2nd ..... Portland Cement; 3rd ..... Sand & Gravel	
14.	Number of employees engaged in crude oil and natural gas production	200
15.	First year of production of crude oil	1943
	natural gas	1931
16.	First recorded production of crude oil (barrels) 1943	2,000
	natural gas (Mcf) 1949	80,000
17.	Geophysical Activity—Crew months worked in 1980	24

Production & Reserves

18.	Year of largest production (crude oil)	1947
19.	Crude oil produced in year of largest production (barrels)	61,000
20.	Percent of crude oil produced by stripper wells	100%

21. Number of producing wells at end of 1980: Crude Oil 0
Gas & Condensate 274
Total 274

22. Average daily production of crude oil per well at end of 1980 0

23. Percent of wells pumping or on artificial lift ..... Not Applicable

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	5	0	5
1978	5	0	5
1979	4	0	4
1980	0	0	0

25. Production and new reserves found in 1979:

	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	0	0	0	5.4
Estimated Production	0	0	0	8.6
Net Change in Reserves	0	0	0	-3.2

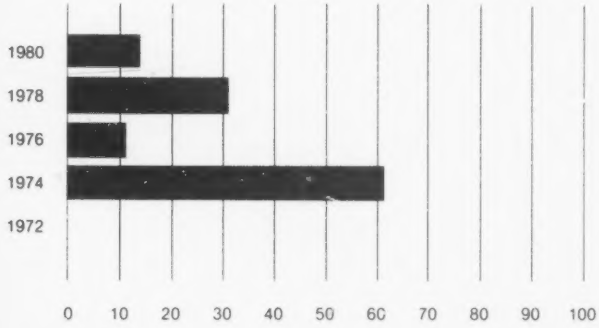
‡Downward Revision of Previous Estimate

26. Production and new reserves found all time to December 31, 1979:

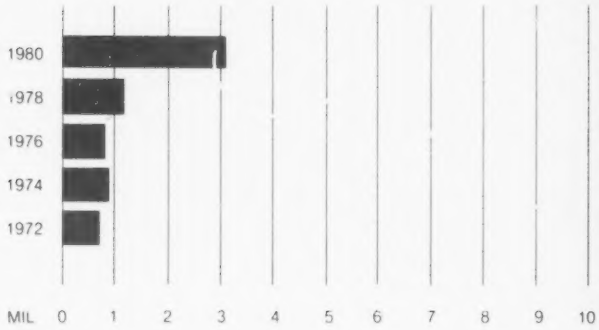
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	1.6	0	1.6	183.5
Total Production	.3	0	.3	107.7
Proved Reserves Dec. 31, 1979	1.3*	0	1.3*	75.8

*Estimated

TOTAL WELLS DRILLED



ACREAGE UNDER LEASE FOR OIL & GAS



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) ..... <1

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 7,238

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 17,003

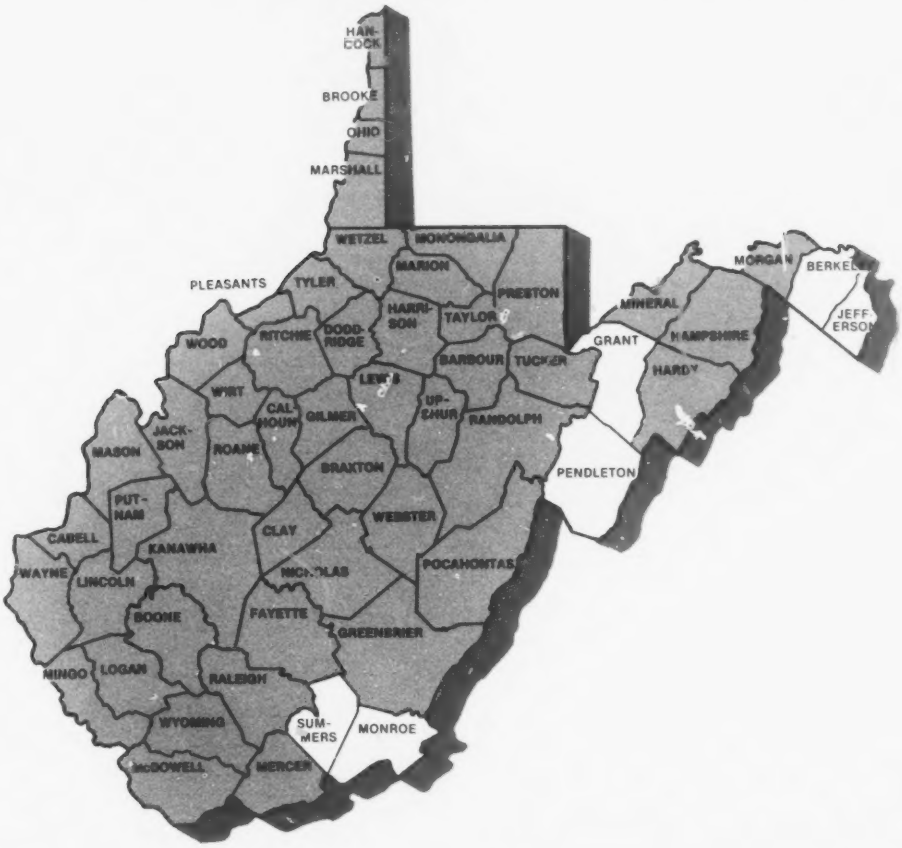
30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	0	0
Gas Wells	0	0
Dry Wells	1	100.0
Service Wells	0	0
Total Wells	1	100.0
Average Depth per well	4,640	
Total Footage	4,640	
Development Wells		
Oil Wells	2	15.4
Gas Wells	9	69.2
Dry Wells	2	15.4
Service Wells	0	0
Total Wells	13	100.0
Average Depth per well	3,989	
Total Footage	51,851	
Total Wells		
Oil Wells	2	14.3
Gas Wells	9	64.3
Dry Wells	3	21.4
Service Wells	0	0
Total Wells	14	100.0
Average Depth per well	4,035	
Total Footage	56,491	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	16	4.4
Gas	264	72.7
Dry	83	22.9
Total	363	100.0

The Oil Producing Industry in WEST VIRGINIA



Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	55
2.	Number of Counties with oil and/or gas production	49
3.	Total land area of State (acres)	15,404,800
4.	Area proved productive of oil and/or gas (acres)	7,160,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	6,774,000
6.	Percent of total land area productive or leased	99.4
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 1,426,481
8.	Average field price of crude oil per barrel in 1980	$ 37.04
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 83,635
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 208,619
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 292,254
12.	Percent petroleum value to total all minerals	5.3%
13.	Principal mineral products in order of value:	
	1st ..... Coal	
	2nd ..... Natural Gas	
	3rd ..... Crude Petroleum	
14.	Number of employees engaged in crude oil and natural gas production	4,500
15.	First year of production of crude oil	1860
	natural gas	1885
16.	First recorded production of crude oil (barrels) 1876	120,000
	natural gas (Mcf) 1885	450,000
17.	Geophysical Activity—Crew months worked in 1980	24

Production & Reserves

18.	Year of largest production (crude oil)	1900
19.	Crude oil produced in year of largest production (barrels)	16,196,000
20.	Percent of crude oil produced by stripper wells	99.0%

21. Number of producing wells at end of 1980: Crude Oil 14,425
Gas & Condensate 25,600
Total 40,025

22. Average daily production of crude oil per well at end of 1980 ..... 0.4

23. Percent of wells pumping or on artificial lift 100%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	6,899	15,350*	22,249
1978	6,528	21,559*	28,085
1979	6,592	15,068*	21,660
1980	6,169	16,500*	22,669

25. Production and new reserves found in 1979:

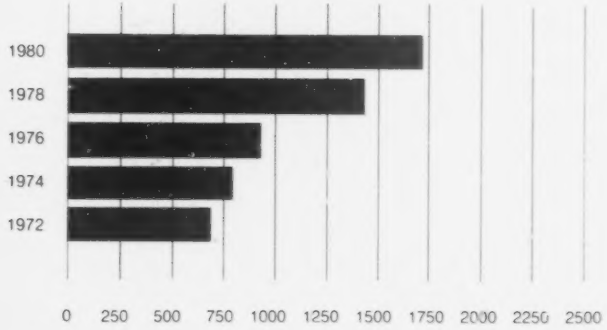
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	21	8	29	40
Estimated Production	3	6	9	116
Net Change in Reserves	18	2	20	-76

26. Production and new reserves found all time to December 31, 1979:

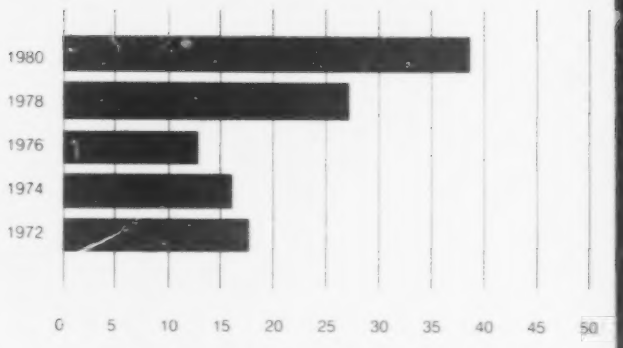
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	573	306	879	16,735
Total Production	525	232	757	15,177
Proved Reserves Dec. 31, 1979	48	74	122	1,558

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 38

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 14,300

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 20,222

30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	10	8.9
Gas Wells	80	71.4
Dry Wells	22	19.7
Service Wells	0	0
Total Wells	122	100.0
Average Depth per well	4,413	
Total Footage	494,294	
Development Wells		
Oil Wells	122	7.6
Gas Wells	1,331	82.9
Dry Wells	112	7.0
Service Wells	40	2.5
Total Wells	1,605	100.0
Average Depth per well	3,712	
Total Footage	5,957,638	
Total Wells		
Oil Wells	132	7.7
Gas Wells	1,411	82.2
Dry Wells	134	7.8
Service Wells	40	2.3
Total Wells	1,717	100.0
Average Depth per well	3,758	
Total Footage	6,451,932	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	46,531	45.0
Gas	37,791	36.6
Dry	19,038	18.4
Total	103,360	100.0

The Oil Producing Industry in WYOMING

Counties with oil and/or gas production

Extent & Economic Value of Industry

1.	Number of Counties	23
2.	Number of Counties with oil and/or gas production	20
3.	Total land area of State (acres)	162,209,920
4.	Area proved productive of oil and/or gas (acres)	2,200,000
5.	Estimated non-productive area leased January 1, 1981 (acres)	36,565,000
6.	Percent of total land area productive or leased	62.3
7.	Value at wells of crude oil produced all time to January 1, 1981 (Thous.)	$ 17,866,235
8.	Average field price of crude oil per barrel in 1980	$ 21.47
9.	Value at wells of crude oil produced in 1980 (Thous.)	$ 2,776,265
10.	Value at wells of natural gas produced in 1980 (Thous.)	$ 553,465
11.	Total value of crude oil and natural gas in 1980 (Thous.)	$ 3,329,730
12.	Percent petroleum value to total all minerals	57.2%
13.	Principal mineral products in order of value: 1st Crude Petroleum; 2nd Coal; 3rd Natural Gas	
14.	Number of employees engaged in crude oil and natural gas production	18,077
15.	First year of production of crude oil	1867
	natural gas	1889
16.	First recorded production of crude oil (barrels) 1894	2,000
	natural gas (Mcf) 1906	100
17.	Geophysical Activity—Crew months worked in 1980	274

Production & Reserves

18.	Year of largest production (crude oil)	1970
19.	Crude oil produced in year of largest production (barrels)	160,345,000
20.	Percent of crude oil produced by stripper wells	4.2%

21. Number of producing wells at end of 1980: Crude Oil 10,227
Gas & Condensate 1,504
Total 11,731

22. Average daily production of crude oil per well at end of 1980 ..... 34.2

23. Percent of wells pumping or on artificial lift 92.8%

24. Average production in barrels daily:

	Crude Oil	*Natural Gas Liquids*	*Total Petroleum Liquids*
1977	373,896	27,803	401,699
1978	376,397	25,323	401,720
1979	361,342	28,493*	389,835
1980	353,303	28,500*	381,803

25. Production and new reserves found in 1979:

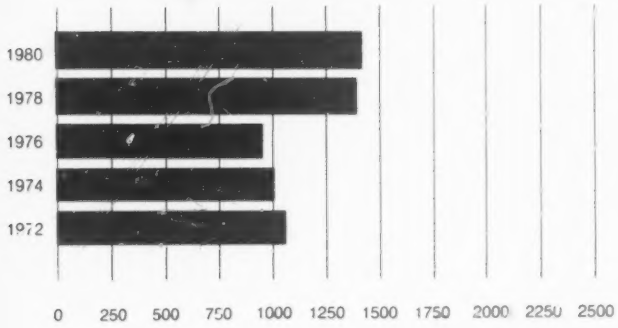
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
New Reserves Found	119	46	165	670
Estimated Production	123	15	138	355
Net Change in Reserves	-4	31	27	315

26. Production and new reserves found all time to December 31, 1979:

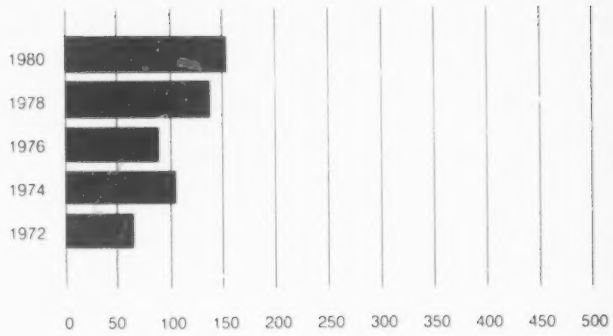
	Crude Oil	*Natural Gas Liquids (Million Barrels)*	*Total Liquids Petroleum*	*Natural Gas (Bil. Cu. Ft.)*
Total Reserves Found	5,402	523	5,925	16,208
Total Production	4,561	238	4,799	8,682
Proved Reserves Dec. 31, 1979	841	285	1,126	7,526

*Estimated

TOTAL WELLS DRILLED



ROTARY RIGS ACTIVE



Exploration & Development

27. Rotary Drilling Rigs Active in 1980 (average) 155

28. Deepest producing well drilled to January 1, 1981 ..... *Gas* 19,610

29. Deepest well drilled to January 1, 1981 (feet) ..... *Dry Hole* 25,764

30. Wells and footage drilled in 1980:

	Number	*Percent*
Wildcat Wells		
Oil Wells	49	11.9
Gas Wells	52	12.6
Dry Wells	311	75.5
Service Wells	0	0
Total Wells	412	100.0
Average Depth per well	8,500	
Total Footage	3,501,858	
Development Wells		
Oil Wells	549	55.2
Gas Wells	202	20.3
Dry Wells	226	22.7
Service Wells	18	1.8
Total Wells	995	100.0
Average Depth per well	7,318	
Total Footage	7,281,738	
Total Wells		
Oil Wells	598	42.5
Gas Wells	254	18.1
Dry Wells	537	38.2
Service Wells	18	1.2
Total Wells	1,407	100.0
Average Depth per well	7,664	
Total Footage	10,782,596	

31. Total wells drilled all time to January 1, 1981 (Excluding service wells):

	Number	*Percent*
Oil	21,790	52.3
Gas	2,766	6.6
Dry	17,150	41.1
Total	41,706	100.0

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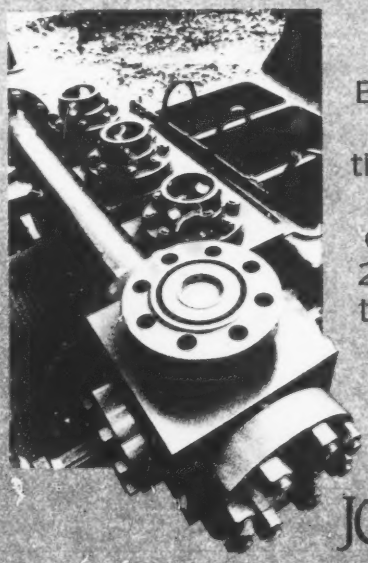

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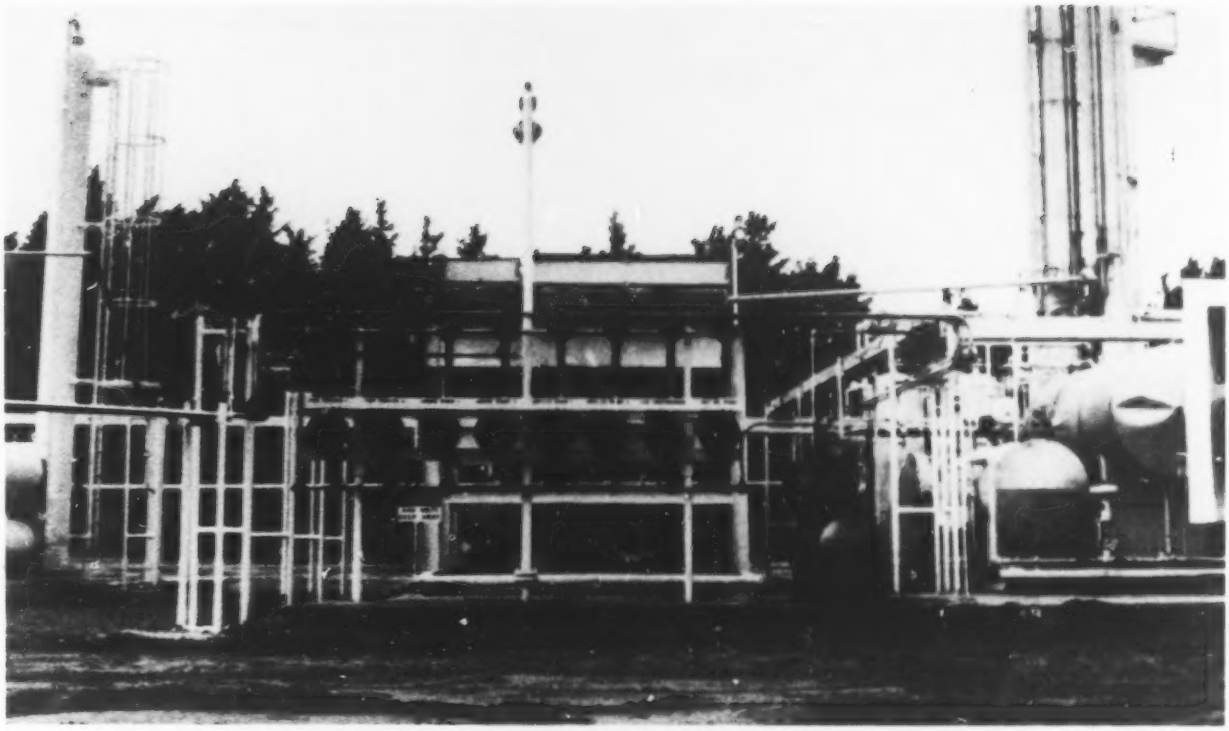

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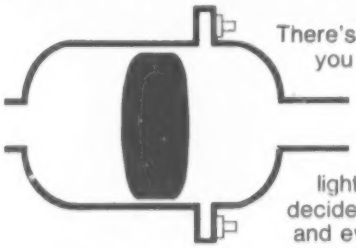

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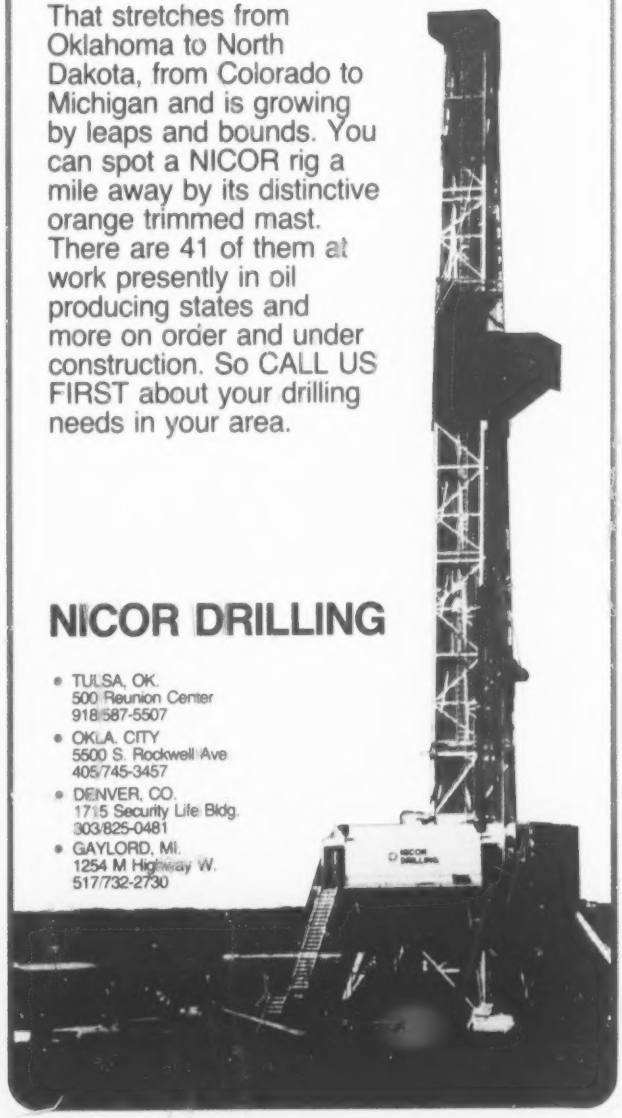

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Percent of U. S. Crude Oil Production by "Chase Bank Group" of Companies and "All Other" Group 1948-1979

	Chase Bank Group of Companies	*All Other*	*Total U. S.*
1948	62.9	37.1	100.0
1949	61.8	38.2	100.0
1950	59.5	40.5	100.0
1951	60.1	39.9	100.0
1952	60.4	39.6	100.0
1953	63.9	36.1	100.0
1954	62.4	37.6	100.0
1955	61.3	38.7	100.0
1956	61.6	38.4	100.0
1957	62.6	37.4	100.0
1958	61.7	38.3	100.0
1959	62.1	37.9	100.0
1960	62.9	37.1	100.0
1961	62.8	37.2	100.0
1962	64.2	35.8	100.0
1963	65.0	35.0	100.0
1964	65.9	34.1	100.0
1965	67.5	32.5	100.0
1966	67.8	32.2	100.0
1967	68.9	31.1	100.0
1968	69.4	30.6	100.0
1969	69.5	30.5	100.0
1970	70.7	29.3	100.0
1971	71.3	28.7	100.0
1972	71.3	28.7	100.0
1973	71.3	28.7	100.0
1974	70.4	29.6	100.0
1975	70.3	29.7	100.0
1976	68.7	31.3	100.0
1977	68.8	31.2	100.0
1978	71.1	28.9	100.0
1979	69.5	30.5	100.0
Excluding North Slope			
1977	67.5	32.5	100.0
1978	67.0	33.0	100.0
1979	64.1	35.9	100.0

Source: Chase Manhattan Bank

THE NEW OXYGEN MENACE DOWNHOLE.

Today's reservoirs can kill yesterday's corrosion inhibitors. You need new answers, and Tretolite has them for you.

It only takes a tiny amount of oxygen in production fluids to start big problems for you—only 50 parts of oxygen in a *billion!*

Suddenly, well equipment that you've guarded effectively for years against corrosion can start getting eaten alive.

The trouble's growing in today's depleting reservoirs. Lowered fluid levels and decreased gas pressure can let small air leaks begin in the annulus. Conventional inhibitors become ineffective.

But you don't have to read every line of the case histories at right to see how well KONTOL* Low-Oxygen Corrosion Inhibitors work—with Tretolite's field force of technical specialists to help you develop the treatment programs that make control effective.

Water-soluble and oil-soluble KONTOL Low-Oxygen Corrosion Inhibitors are organic, film-forming compounds designed to control corrosion in systems containing hydrogen sulfide and/or carbon dioxide with 3 ppm or less of dissolved oxygen.

A Tretolite program with KONTOL is ideal, especially where it's just not possible or practical to remove or prevent dissolved oxygen. Water-soluble KONTOL is effective, too, in the absence of oxygen, has good surfactant properties, and is usable in most oil field brines. It can be applied continuously by squeeze, or frequent batch. Various oil-soluble KONTOL formulas also provide a number of other specialized benefits in specific applications.

Get all the advantages of Tretolite's 60-plus years of leadership in oil field treatment products. Ask the Man in the Red Car.

Look how well new KONTOL Low-Oxygen Corrosion Inhibitors—teamed with Tretolite-supervised treatment programs—are working to control oxygen-accelerated corrosion problems in every kind of oilfield situation.

System	Evaluation Method	Before	After
Power Water	Pot'dyne Pit Rate Tubing Failures	640 MPY 4/mo.	18 MPY 0.2/mo.
CO_2 Flood Rod Pumps	Rod Breaks	4.25/mo.	1.5/mo.
Waterflood	Line Leaks	10/mo.	0.8/mo.
Fireflood Flowing Wells	Coupons	200 MPY	7 MPY
Rod-pumped Wells	Body Breaks	4/mo.	1/mo.
Waterflood	Pot'dyne Pit Rate at Injection Well	160 MPY	14 MPY
Waterflood	Pot'dyne Pit Rate at Injection Well	34 MPY	16 MPY
Rod-pumped Wells	Coupons	21 MPY	3 MPY
Hot, Sweet Flowing Wells	Coupons	5 MPY	0.4 MPY
Submersible Pumped Hot Oil Well	Life of New Tubing	2 mos.	1 yr.+
Rod-pumped Oil Well	Pump Failures	2/mo.	<1/yr.
3 Rod-pumped Wells	Corrosion Pulls per Well Pot'dyne Pit Rate	1/mo. 23 MPY	1/yr. 7 MPY
Rod-pumped Oil Well	Corrosion Pulls	1/mo.	<1/3 mo.
Rod-pumped Wells	Avg. Iron Counts	68 ppm	13 ppm
Rod-pumped Oil Wells	Pot'dyne Pit Rate	630 MPY	23 MPY
Rod-pumped Oil Well	Corrosion Pulls Rod Life Pot'dyne Pit Rate	17/yr. 3-5 mo. 300 MPY	0/yr. 11+ mo. 14 MPY
Submersible Oil Well	Corrosion Failures Pot'dyne Pit Rate	2/yr. 35 MPY	0/yr. 7 MPY

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Geophysical Activity in The U.S.—1971-1980
Crew Months Worked

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Atlantic Coast	0	0	21	8	112	66	34	17	4	20
Florida	171	148	153	76	55	22	17	18	17	21
New York	13	22	28	8	14	15	12	2	2	11
Pennsylvania	46	105	64	44	32	26	21	41	33	39
Virginia	8	5	1	8	[illegible]	3	0	4	17	24
West Virginia	25	52	56	45	32	13	8	11	15	24
Other	2	20	20	17	5	5	2	9	3	15
P.A.D. Dist. I	265	352	343	206	250	150	94	102	91	154
Illinois	1	62	72	67	23	5	4	3	10	5
Indiana	0	19	18	10	1	1	0	0	0	6
Kansas	2	20	16	34	24	36	28	64	88	76
Kentucky	22	21	50	65	31	11	7	1	7	23
Michigan	185	175	232	201	267	266	180	244	111	145
Nebraska	0	7	7	0	1	3	5	2	24	12
North Dakota	48	56	41	72	34	44	96	269	269	242
Ohio	11	16	17	9	2	2	3	2	1	3
Oklahoma	205	220	128	153	151	90	103	234	240	169
South Dakota	21	6	8	30	8	0	1	63	3	2
Other	3	4	14	14	14	7	10	8	37	37
P.A.D. Dist. II	498	606	603	655	556	465	437	890	790	720
Alabama	140	136	73	74	97	81	13	32	50	126
Arkansas	53	49	46	48	25	32	45	48	35	37
Louisiana	316	388	315	357	377	347	318	560	665	654
Mississippi	256	310	176	76	160	163	199	173	154	168
New Mexico	86	98	94	133	74	79	53	89	85	120
Texas	663	606	686	989	929	942	722	1,095	1,213	1,438
P.A.D. Dist. III	1,514	1,587	1,390	1,677	1,662	1,644	1,350	1,997	2,202	2,543
Colorado	32	72	69	76	37	53	42	61	58	87
Montanta	67	73	62	155	40	85	57	155	135	202
Utah	71	64	51	89	65	65	71	163	106	158
Wyoming	126	126	264	363	353	239	183	211	366	274
Other	4	40	3	3	1	17	24	34	23	20
P.A.D. Dist IV	300	375	449	686	496	459	377	624	693	741
Alaska	67	84	64	184	176	129	34	16	30	37
Arizona	18	24	2	0	10	0	1	8	54	35
California	67	81	139	236	135	138	65	119	122	157
Nevada	7	16	9	16	16	11	38	45	51	47
Other	19	15	0	0	1	0	30	44	4	10
P.A.D. Dist. V	178	220	214	436	338	278	168	232	261	286
Undesignated*	—	—	—	—	114	144	637	303	363	518
Total U.S.	2,755	3,140	2,999	3,660	3,416	3,140	3,063	4,148	4,400	4,962

Source: Society of Exploration Geophysicists.
*Undesignated includes marine crew months worked.

Estimated Productive and Nonproductive Acreage Under Lease for Oil and Gas 1979-1981

	Total Land Area of State (Acres)	Total Acres Under Lease—Jan. 1st. 1979	1980	1981	Percent of Total Land Area Under Lease — Jan. 1 1981
Florida	34,617,600	2,847,500	2,805,200	3,005,200	8.7
Maryland	6,330,240	285,900	364,200	449,200	7.0
New York	30,611,840	5,070,000	4,975,000	5,500,000	17.9
Pennsylvania	28,778,240	16,133,360	16,631,660	17,010,160	59.1
Virginia	25,459,200	1,205,866	2,023,745	3,053,150	12.0
West Virginia	15,404,800	12,972,000	13,542,000	13,934,000	90.4
P.A.D. Dist. I	141,201,920	38,514,626	40,341,805	42,951,710	30.4
Illinois	35,678,720	3,651,000	3,904,720	4,413,000	12.3
Indiana	23,102,080	3,569,640	3,725,340	8,778,810	38.0
Kansas	52,343,680	12,000,600	12,984,300	13,222,400	25.2
Kentucky	25,376,000	3,925,000	4,083,000	4,950,000	19.5
Michigan	36,362,880	12,540,201	10,784,891	12,550,000	34.5
Missouri	44,156,800	451,900	502,060	504,030	1.1
Nebraska	48,949,120	10,386,000	10,548,000	12,584,000	25.7
North Dakota	44,334,720	22,653,000	22,752,000	22,299,000	50.2
Ohio	26,224,000	15,188,185	15,428,607	16,527,377	63.0
Oklahoma	44,020,480	14,960,200	16,082,700	16,886,900	38.3
South Dakota	48,611,200	6,441,700	6,820,600	7,457,500	15.3
Tennessee	26,449,920	3,333,335	5,245,352	6,522,160	24.6
P.A.D. Dist. II	455,609,600	109,100,761	112,681,570	126,695,177	27.8
Alabama	32,453,120	5,512,000	7,351,786	8,985,085	27.6
Arkansas	33,244,800	7,917,300	7,982,000	9,132,700	27.5
Louisiana	28,755,200	13,965,100	14,767,000	15,962,000	55.5
Mississippi	30,269,440	7,651,100	7,951,400	7,951,400	26.3
New Mexico	77,703,680	29,350,000	29,350,000	30,130,000	38.7
Texas	167,765,760	49,128,800	51,669,600	60,074,600	35.8
P.A.D. Dist. III	370,192,000	113,524,300	119,071,786	132,235,785	35.7
Colorado	66,410,240	35,200,000	34,747,000	31,809,000	47.8
Montana	93,175,680	33,953,000	34,110,000	36,060,000	38.7
Utah	52,541,440	28,130,000	28,890,800	29,519,000	56.1
Wyoming	62,209,920	37,620,000	39,597,000	38,765,000	62.3
P.A.D. Dist. IV	274,337,280	134,903,000	137,344,800	136,153,000	49.6
Alaska	362,516,480	5,131,350	3,744,476	3,527,540	0.9
Arizona	72,586,880	10,974,900	11,945,400	12,005,400	16.5
California	100,071,040	3,553,900	4,040,276	4,106,000	4.1
Nevada	70,328,960	12,753,000	15,718,800	17,855,800	25.3
Oregon	62,067,840	**	4,500,700	4,001,120	6.4
P.A.D. Dist. V	667,571,200	32,413,150	39,949,652	41,495,860	6.2
Miscellaneous	354,675,200	**	**	**	**
TOTAL U.S.	2,263,587,200	428,455,837	449,389,613	479,531,532	21.2

** Not Available

Source: Various state and industry sources.

Rotary Rigs Active in The United States—1971-1980

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Florida	10	18	9	9	9	5	6	6	5	4
New York	1	1	2	7	8	9	7	7	9	7
Pennsylvania	9	8	11	14	10	10	15	25	29	29
West Virginia	17	17	20	16	10	12	17	27	30	38
Other	2	2	2	2	2	1	2	6	7	1
P.A.D. Dist I	39	46	44	48	39	37	47	71	80	79
Illinois	13	14	6	7	19	22	16	28	13	25
Indiana	1	2	0	1	2	2	3	4	0	0
Kansas	29	25	28	44	57	51	68	76	66	120
Kentucky	2	2	2	2	1	1	2	3	1	2
Michigan	12	18	19	24	28	24	24	24	25	31
Nebraska	5	6	4	7	9	8	9	10	9	14
North Dakota	9	7	10	12	17	19	24	39	56	83
Ohio	17	23	36	30	21	26	33	47	46	74
Oklahoma	90	91	115	146	178	186	233	258	245	397
South Dakota	1	1	1	1	1	2	3	2	1	2
Other	2	2	1	1	2	0	1	1	0	3
P.A.D. Dist II	181	191	222	275	335	342	416	492	462	751
Alabama	8	15	13	12	14	17	13	13	13	11
Arkansas	15	15	15	18	14	15	15	14	10	27
Louisiana	193	216	205	203	227	231	292	338	347	427
Mississippi	39	37	29	29	25	32	42	45	40	58
New Mexico	47	57	62	79	71	54	69	76	88	118
Texas	291	325	376	508	637	653	779	855	770	987
P.A.D. Dist III	593	665	700	849	988	1,002	1,210	1,341	1,268	1,628
Colorado	30	36	42	46	43	38	45	41	40	61
Montana	17	20	19	24	27	28	27	30	33	49
Utah	17	34	38	42	26	19	30	32	29	42
Wyoming	45	62	70	107	107	86	118	136	147	155
Other	0	0	1	0	<1	0	1	3	2	3
P.A.D. Dist IV	109	152	170	219	203	171	221	242	251	310
Alaska	5	5	5	9	14	14	15	16	14	14
Arizona	1	1	2	1	<1	1	<1	<1	0	1
California	46	46	51	72	80	89	90	94	96	120
Nevada	1	0	0	1	1	2	3	3	4	5
Oregon	0	1	0	0	<1	1	<1	<1	2	1
P.A.D. Dist V	53	53	58	83	95	106	108	113	116	141
TOTAL U.S.	975	1,107	1,194	1,474	1,660	1,658	2,002	2,259	2,177	2,909

< = Less than
Source: Hughes Tool Co.

1979 Consumption of Motor Gasoline

(Thousand Barrels)

Alabama	49,850
Alaska	4,918
Arizona	33,643
Arkansas	30,232
California	270,607
Colorado	37,036
Connecticut	32,683
Delaware	7,297
Florida	116,801
Georgia	71,966
Hawaii	7,916
Idaho	12,827
Illinois	123,480
Indiana	68,929
Iowa	40,924
Kansas	33,496
Kentucky	44,476
Louisiana	51,389
Maine	12,897
Maryland	46,461
Massachusetts	57,419
Michigan	113,252
Minnesota	52,896
Mississippi	30,767
Missouri	66,339
Montana	11,890
Nebraska	21,604
Nevada	11,927
New Hampshire	10,332
New Jersey	80,823
New Mexico	18,892
New York	141,666
North Carolina	74,512
North Dakota	10,564
Ohio	127,539
Oklahoma	45,186
Oregon	32,927
Pennsylvania	120,043
Rhode Island	9,406
South Carolina	39,472
South Dakota	11,238
Tennessee	60,196
Texas	207,397
Utah	17,393
Vermont	6,217
Virginia	65,232
Washington	47,526
West Virginia	21,163
Wisconsin	56,011
Wyoming	9,087
District of Columbia	4,844
Total U.S.	2,681,638

Source: Department of Transportation

U.S. Petroleum Demand

	Petroleum demand (Thous. B D)			% U.S. energy consump.		
Year	Domestic	Export	Total	Liquid petroleum	Natural gas (dry)	Total
1969	14,148	233	14,381	43.7	32.4	76.1
1970	14,709	259	14,968	44.0	32.8	76.8
1971	15,225	224	15,449	44.4	33.2	77.6
1972	16,380	222	16,602	45.8	32.0	77.8
1973	17,321	231	17,552	46.7	30.2	76.9
1974	16,666	220	16,886	46.0	29.9	76.9
1975	16,335	209	16,544	46.3	28.2	74.5
1976	17,476	223	17,699	47.2	27.3	74.5
1977	18,447	243	18,690	48.7	26.1	74.8
1978	18,862	362	19,224	48.6	25.6	74.2
1979	18,531	471	19,002	47.2	26.0	73.2
1980	17,020	541	17,561	44.9	26.8	71.7

Source U S Department of Energy

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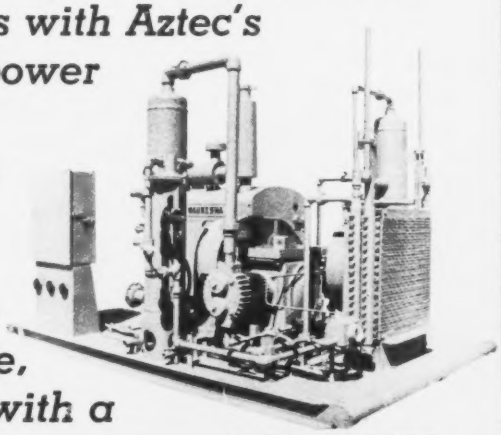

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General Economic Data

	Consumer Price Index All Items (1967 = 100)	Producer Price Index All Commod (1967 = 100)	Total Industrial Production (1967 = 100)	Implicit Price Deflator G.N.P (1972 = 100)
1974	147.7	160.1	124.8	114.92
1975	161.2	174.9	113.8	125.56
1976	170.5	183.1	129.8	132.11
1977	181.5	194.2	138.2	139.83
1978	195.4	209.3	146.1	150.05
1979	217.4	235.6	152.5	162.77
1980	246.8	268.7	147.1	177.36

Sources: U.S. Bureau of Labor Statistics, U.S. Dept. of Commerce and Federal Reserve Board

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Value of U.S. Petroleum Production—1979

	Crude Oil (Thousand Dollars)	Natural Gas	Total Petroleum
Alabama	286,281	174,977	461,258
Alaska	5,493,596	114,351	5,607,947
Arizona	3,913	102	4,015
Arkansas	277,940	104,964	382,904
California	4,438,577	423,191	4,861,768
Colorado	424,737	269,467	694,204
Florida	616,486	78,899	695,385
Illinois	511,918	1,949	513,867
Indiana	111,085	369	111,454
Kansas	1,253,894	603,108	1,857,002
Kentucky	124,506	56,365	180,871
Louisiana	5,582,432	8,100,795	13,683,227
Maryland	—	29	29
Michigan	520,832	277,932	798,764
Missouri	2,216	—	2,216
Mississippi	520,708	230,523	751,231
Montana	371,181	65,258	436,439
Nebraska	101,673	2,727	104,400
Nevada	14,202	—	14,202
New Mexico	1,119,861	1,613,742	2,733,603
New York	20,332	19,623	39,955
N. Dakota	371,000	23,639	394,639
Ohio	269,129	222,824	491,953
Oklahoma	2,158,526	2,062,951	4,221,477
Oregon	—	4	4
Penn.	69,235	127,711	196,946
S. Dakota	21,387	1,926	23,313
Tennessee	12,440	1,600	14,040
Texas	12,848,346	8,850,782	21,699,128
Utah	316,736	41,961	358,697
Virginia	92	14,365	14,457
West Virginia	67,368	158,030	225,398
Wyoming	1,121,603	468,290	1,589,893
Total U.S.	39,052,232	24,112,454	63,164,686

Source: Based on data from U.S. Department of Energy

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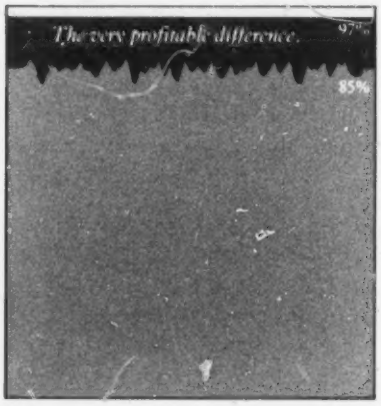

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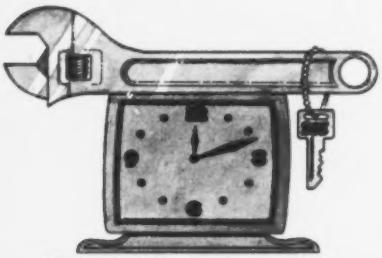

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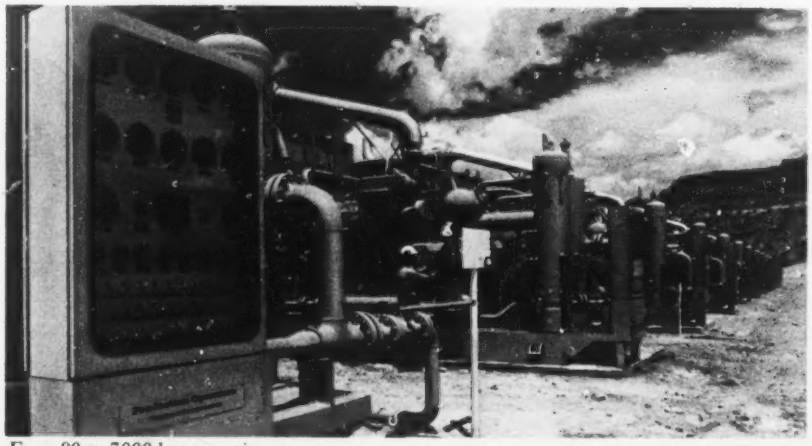

From 80-to-7000 hp. per unit.

piping, foundations or skids, cylinders and cooling systems; 3) Move and install new or reapplied units; 4) Revamp and install dehydrators, processing plants and other associated equipment; 5) Assume one-source responsibility for all work with virtually every phase completed by POI personnel at the jobsite.

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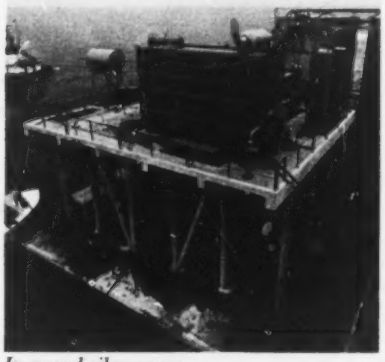

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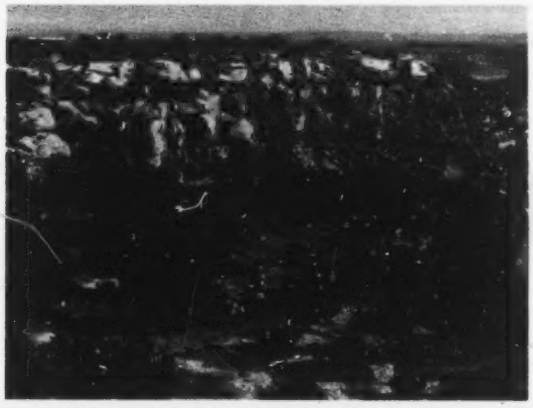
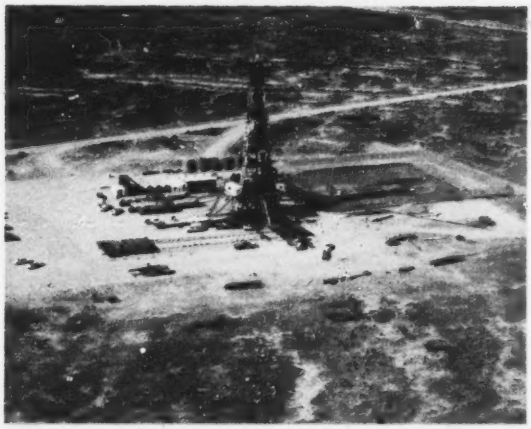
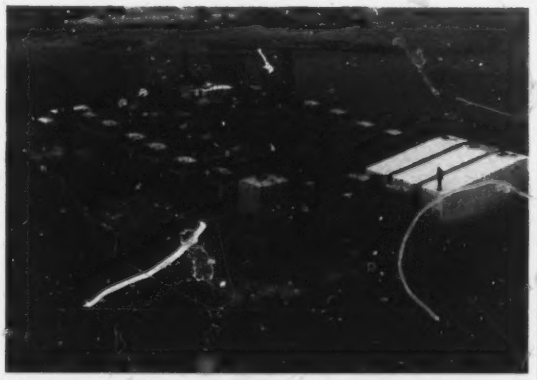
United States oil and gas reserves are found in many places.



Some in the mountains...



Some on the plains...



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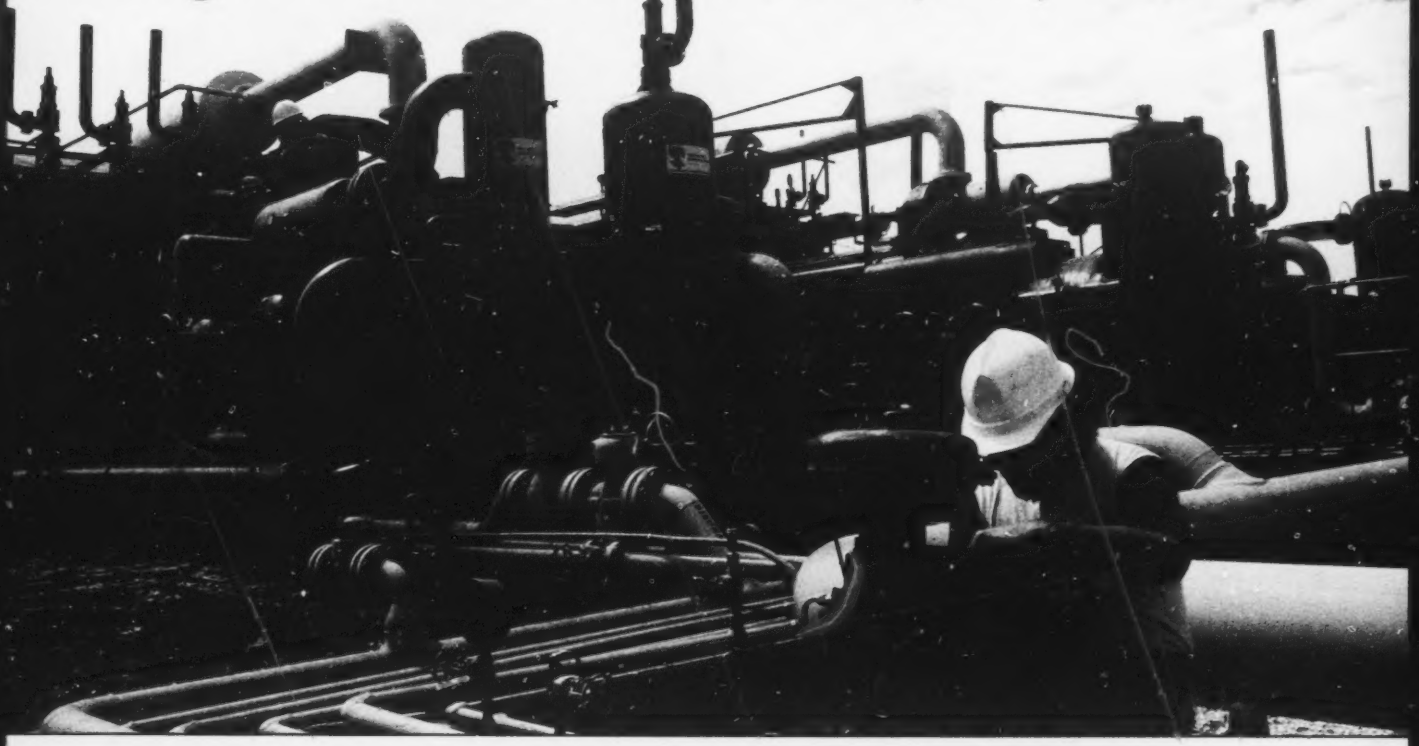

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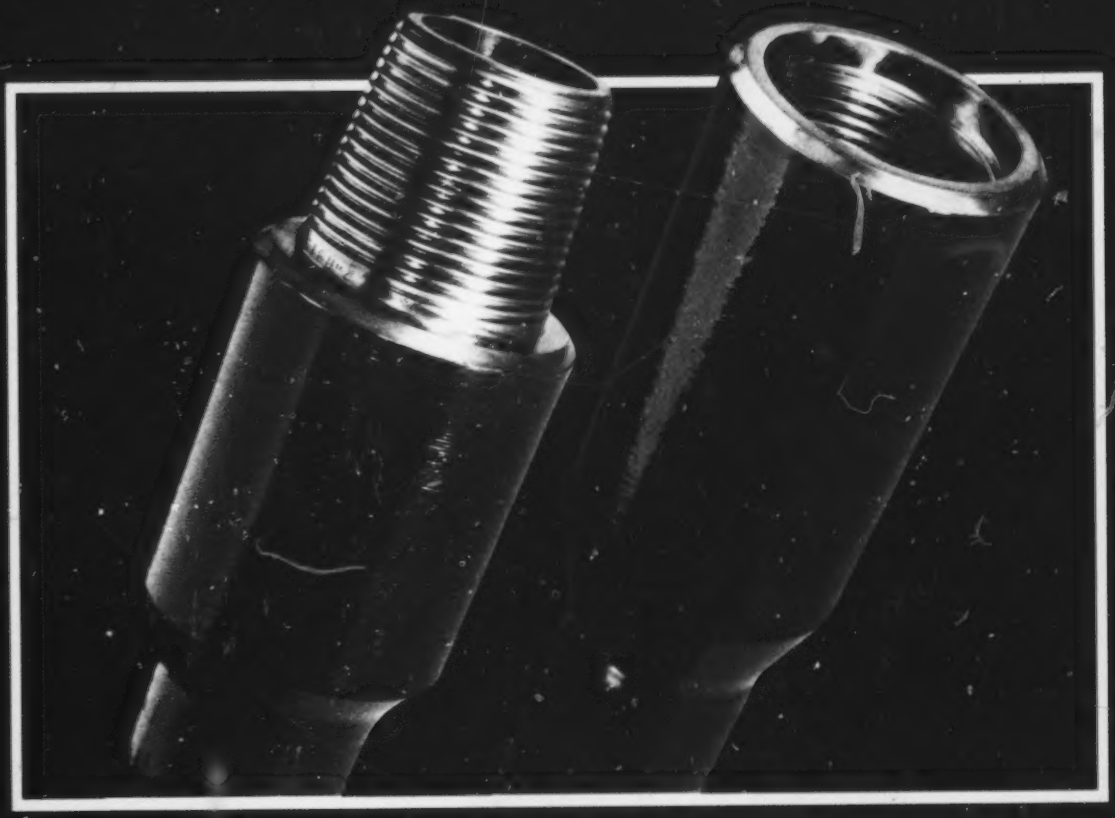

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Total New Field Wildcat Wells Drilled In The U.S.—1971-1980

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Florida	13	41	35	30	25	13	12	15	14	5
Maryland	0	0	0	1	0	0	0	0	0	0
New York	8	7	14	37	12	37	39	30	22	7
Pennsylvania	8	22	30	16	27	15	29	24	14	23
Virginia	0	0	4	1	2	1	0	2	4	1
West Virginia	32	31	18	19	25	24	21	19	23	15
Other	14	2	3	16	5	4	0	0	0	0
P.A.D. Dist I	75	103	104	120	96	94	101	90	77	51
Illinois	69	61	72	103	106	86	51	77	49	99
Indiana	60	82	101	102	68	86	67	103	64	103
Kansas	151	199	232	285	274	306	298	284	380	379
Kentucky	118	123	87	93	153	113	84	57	81	62
Michigan	152	173	165	251	270	279	326	265	239	317
Missouri	6	2	8	24	16	8	9	7	9	7
Nebraska	104	187	97	145	182	159	204	201	235	274
North Dakota	87	56	56	59	88	79	73	128	99	174
Ohio	6	18	19	11	5	14	11	3	18	1
Oklahoma	144	176	159	198	191	201	210	210	185	173
South Dakota	35	21	21	9	21	26	18	16	28	14
Tennessee	86	39	45	47	85	93	74	85	60	136
Other	1	0	0	2	0	0	1	0	0	0
P.A.D. Dist II	1,019	1,137	1,062	1,329	1,459	1,450	1,426	1,436	1,447	1,739
Alabama	45	85	66	47	59	63	42	59	90	77
Arkansas	73	89	76	88	78	76	78	95	99	109
Louisiana	462	481	490	465	521	425	496	555	542	669
Mississippi	196	232	191	258	226	232	247	243	232	254
New Mexico	125	181	177	192	156	138	114	125	155	225
Texas	1,296	1,458	1,632	1,980	2,325	2,325	2,460	2,708	2,726	2,690
P.A.D. Dist III	2,197	1,526	2,632	3,030	3,365	3,259	3,437	3,785	3,844	4,024
Colorado	486	389	357	296	349	310	282	336	280	318
Montana	261	401	387	316	286	234	230	237	218	282
Utah	41	69	46	47	59	34	79	65	66	61
Wyoming	272	352	300	402	376	335	382	402	306	344
Other	0	0	6	2	1	2	1	6	2	6
P.A.D. Dist IV	1,060	1,211	1,096	1,063	1,071	915	974	1,046	872	1,011
Alaska	4	11	9	7	12	7	14	4	14	14
Arizona	5	10	4	5	2	0	0	4	2	4
California	89	86	79	87	64	76	112	110	99	137
Nevada	13	2	0	2	4	7	10	13	9	12
Oregon	0	0	3	0	0	3	6	0	10	18
P.A.D. Dist V	111	109	95	101	82	93	142	131	134	185
Alaska Fed. Waters	0	0	0	0	0	0	7	3	4	4
Atlantic Coast	0	0	0	0	0	0	0	0	18	4
Gulf of Mexico*	0	0	0	9	31	29	14	14	17	16
Total Fed. Waters	0	0	0	9	31	29	21	17	39	24
TOTAL U.S.	4,462	5,086	4,989	5,652	6,104	5,840	6,101	6,505	6,413	7,034

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Source: American Association of Petroleum Geologists and American Petroleum Institute.

Total Exploratory Wells Drilled in The U.S.—1971-1980

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Florida	13	42	37	30	27	14	12	16	15	5
New York	10	14	21	49	21	52	50	47	51	20
Pennsylvania	22	66	97	101	109	71	93	96	68	131
Virginia	9	0	4	8	8	3	9	5	4	1
West Virginia	66	83	80	102	91	99	108	165	108	112
Other	14	2	3	18	6	4	0	0	0	0
P.A.D. Dist I	125	207	242	308	262	243	272	329	246	269
Illinois	165	149	196	220	254	247	241	265	233	444
Indiana	114	131	139	168	156	195	277	267	186	324
Kansas	741	764	739	847	879	914	980	1,107	1,078	1,097
Kentucky	202	220	164	184	313	373	365	351	354	447
Michigan	161	182	176	258	272	282	329	266	246	321
Missouri	6	3	8	24	16	8	9	7	15	15
Nebraska	107	198	102	155	202	188	232	221	258	293
North Dakota	97	65	72	74	109	116	106	163	144	242
Ohio	27	55	60	172	121	171	125	40	125	60
Oklahoma	415	416	352	396	394	434	473	502	484	508
South Dakota	35	26	21	9	22	27	22	17	34	17
Tennessee	128	67	66	85	143	165	156	151	94	188
Other	1	0	0	2	0	0	1	0	0	0
P.A.D. Dist II	2,199	2,276	2,095	2,594	2,881	3,120	3,316	3,357	3,251	3,956
Alabama	48	85	70	58	65	69	44	63	97	80
Arkansas	92	101	79	90	78	76	86	95	105	111
Louisiana	802	736	712	646	708	611	645	781	678	798
Mississippi	200	236	207	292	263	266	260	247	244	280
New Mexico	129	216	191	209	170	172	172	174	201	292
Texas	1,818	1,973	2,325	2,907	3,203	3,269	3,549	3,884	4,011	4,274
P.A.D. Dist III	3,089	3,347	3,584	4,202	4,487	4,463	4,756	5,244	5,336	5,835
Colorado	563	512	442	338	413	372	383	463	439	487
Montana	303	447	435	381	379	321	319	308	298	374
Utah	55	86	70	56	66	39	94	79	86	91
Wyoming	345	451	369	470	461	395	465	477	379	412
Other	0	0	6	2	1	2	1	6	2	6
P.A.D. Dist IV	1,266	1,496	1,322	1,247	1,320	1,129	1,262	1,333	1,204	1,370
Alaska	5	13	14	12	22	7	22	10	16	14
Arizona	5	12	4	5	2	0	0	4	2	4
California	220	186	202	235	205	233	296	370	363	410
Nevada	13	2	0	2	4	7	14	13	10	12
Oregon	0	0	3	0	0	3	2	0	17	22
P.A.D. Dist V	243	213	223	254	233	250	334	397	408	462
Alaska Fed. Waters	0	0	0	0	0	0	7	3	4	4
Atlantic Coast	0	0	0	0	0	0	0	0	18	4
Gulf of Mexico*	0	0	0	14	31	29	14	14	17	16
Total Fed. Waters	0	0	0	14	31	29	21	17	39	24
TOTAL U.S.	6,922	7,539	7,466	8,619	9,214	9,234	9,961	10,677	10,484	11,916

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Source: American Association of Petroleum Geologists and American Petroleum Institute.

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State & Local Severance And Production Taxes Paid In 1980

Alabama	$ 30,018,542
Alaska	830,520,000
Arkansas	17,857,544
California	9,024,876
Colorado	9,534,645
Florida	74,698,164
Indiana	1,756,195
Kansas	734,955
Kentucky	876,375
Louisiana	513,150,907
Maryland	4,475
Michigan	46,993,884
Mississippi	69,011,087
Montana	16,967,783
Nebraska	3,654,552
New Mexico	287,151,670
North Dakota	53,592,630
Ohio	1,579,386
Oklahoma	437,305,806
South Dakota	764,083
Tennessee	378,350
Texas	1,527,867,446
Utah	10,583,694
Virginia	7,655
West Virginia	21,852,429
Wyoming	67,088,040
Total U.S.	$4,032,975,173

Total Wells Drilled in The U.S.—1971-1980

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Florida	22	113	67	48	47	30	29	29	41	12
New York	129	145	161	348	437	596	538	482	428	494
Pennsylvania	701	956	1,142	1,322	1,496	1,311	1,462	1,748	1,941	2,020
Virginia	0	0	9	61	36	11	25	31	25	14
West Virginia	780	679	701	780	794	956	1,213	1,404	1,474	1,717
Other	14	20	4	18	6	9	0	0	9	0
P.A.D. Dist. I	1,646	1,913	2,084	2,577	2,816	2,913	2,167	3,694	3,918	4,257
Illinois	636	655	611	823	1,041	1,527	1,174	1,167	1,208	2,127
Indiana	232	285	259	390	400	507	624	683	500	746
Kansas	2,413	2,458	2,114	2,825	3,398	3,977	3,933	4,322	4,306	5,161
Kentucky	810	822	661	697	973	1,094	1,039	961	986	1,294
Michigan	305	317	281	414	519	522	600	521	527	682
Missouri	13	6	9	101	92	45	54	49	81	31
Nebraska	189	292	163	230	345	323	424	384	453	538
North Dakota	162	99	124	128	213	234	225	327	364	586
Ohio	1,161	1,333	1,504	1,790	1,223	1,919	2,593	2,606	3,492	3,269
Oklahoma	2,490	2,519	2,403	3,189	3,796	4,393	4,976	5,859	6,362	9,073
South Dakota	36	36	22	11	28	32	41	45	50	41
Other	1	0	0	2	0	0	1	0	0	0
P.A.D. Dist. II	8,643	8,916	8,251	10,735	12,231	14,788	15,928	17,146	18,556	23,888
Alabama	64	116	102	98	110	133	133	169	214	189
Arkansas	365	350	292	320	329	440	495	450	505	612
Louisiana	2,983	3,093	2,940	2,830	3,098	3,476	3,398	3,767	4,076	4,956
Mississippi	498	462	361	450	453	469	540	489	544	631
New Mexico	833	1,059	1,098	1,142	1,247	1,006	1,350	1,583	1,607	1,966
Texas	7,728	8,088	8,494	9,808	12,483	12,740	14,759	15,037	16,149	19,253
P.A.D. Dist III	12,471	13,168	13,287	14,648	17,720	18,264	20,675	21,495	23,097	27,607
Colorado	939	1,008	840	843	1,198	1,052	1,211	1,224	1,036	1,253
Montana	457	773	647	673	913	674	761	673	750	882
Utah	87	160	196	196	196	126	277	277	255	280
Wyoming	921	1,066	920	1,001	1,301	975	1,307	1,395	1,335	1,407
Other	0	0	6	2	1	2	1	6	2	6
P.A.D. DIST. IV	2,404	3,007	2,609	2,715	3,609	2,829	3,557	3,575	3,378	3,828
Alaska	32	31	35	38	67	81	72	75	73	134
Arizona	8	23	8	11	3	0	0	7	8	4
California	2,083	1,683	1,325	2,153	2,615	2,540	2,917	2,475	2,150	2,659
Nevada	13	2	0	2	4	7	19	16	16	13
Oregon	0	12	3	0	0	3	2	0	21	31
P.A.D. Dist. V	2,136	1,751	1,371	2,204	2,689	2,631	3,010	2,573	2,268	2,841
Alaska Fed. Waters	0	0	0	0	0	0	11	3	4	4
Atlantic Coast	0	0	0	0	0	0	1	7	18	4
Gulf of Mexico*	0	0	0	14	32	30	30	20	24	33
Total Fed. Waters	0	0	0	14	32	30	42	30	46	41
TOTAL U.S.	27,300	28,755	27,602	32,893	39,097	41,455	46,479	48,513	51,263	62,462

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Source: American Association of Petroleum Geologists and American Petroleum Institute.

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Total Wells Drilled for Oil and Gas
All Time to January 1, 1981

(Excluding Service Wells)

	OIL		GAS		DRY		TOTAL
	Number	Percent	Number	Percent	Number	Percent	Number
Florida	231	27.3	2	0.2	612	72.4	845
Maryland	0	0	72	61.5	45	38.5	117
New York	8,847	73.8	2,188	18.2	951	7.9	11,986
Pennsylvania	241,988	80.0	22,215	7.3	38,176	12.6	302,379
Virginia	16	4.4	264	72.7	83	22.8	363
West Virginia	46,531	45.0	37,791	36.5	19,038	18.4	103,360
P.A.D. Dist. I	297,613	71.0	62,532	14.9	58,905	14.0	419,050
Illinois	69,610	61.2	1,387	1.2	42,622	37.5	113,619
Indiana	36,024	59.8	2,020	3.3	22,102	36.7	60,144
Kansas	101,872	52.0	19,309	9.8	74,652	38.1	195,833
Kentucky	45,520	46.0	9,480	11.0	30,905	35.9	85,905
Michigan	12,435	39.9	2,478	7.9	16,205	52.0	31,118
Missouri	271	21.6	179	14.2	804	6.4	1,254
Nebraska	4,424	29.6	173	1.1	10,308	69.1	14,905
North Dakota	3,601	49.4	39	0.5	3,645	50.0	1,285
Ohio	63,662	47.8	37,562	28.2	35,228	26.4	133,183
Oklahoma	202,671	60.8	34,035	10.2	96,132	28.8	332,838
South Dakota	122	15.1	19	2.3	662	82.4	803
Tennessee	888	24.5	681	18.8	2,046	56.5	3,615
P.A.D. Dist. II	541,100	55.1	107,362	10.9	335,311	34.1	980,502
Alabama	753	25.3	398	13.4	1,808	60.8	2,969
Arkansas	15,936	55.2	2,261	7.8	10,655	36.9	28,852
Louisiana	71,170	47.0	23,858	15.7	56,243	37.1	151,271
Mississippi	6,644	33.6	979	4.9	12,138	61.4	19,761
New Mexico	25,349	50.7	13,682	27.3	10,904	21.8	49,935
Texas	418,113	59.0	55,645	7.8	233,994	33.0	70,152
P.A.D. Dist. III	538,565	56.0	96,823	10.0	325,742	33.9	960,540
Colorado	7,696	26.8	4,104	14.3	16,879	58.8	28,679
Montana	8,955	37.0	3,416	14.1	11,818	48.8	24,189
Utah	2,335	39.0	777	12.9	2,869	47.9	5,981
Wyoming	21,790	52.2	2,766	6.6	17,150	41.1	41,706
P.A.D. Dist. IV	40,776	40.5	11,063	11.0	48,716	48.4	100,555
Alaska	765	59.1	100	7.7	429	33.1	1,294
Arizona	46	10.4	34	7.7	361	81.8	441
California	93,450	77.2	2,733	2.2	24,749	20.4	120,932
Nevada	29	12.3	0	0	206	87.6	235
Oregon	0	0	7	2.7	247	97.2	254
P.A.D. Dist. V	74,290	60.3	2,874	2.3	25,992	21.1	123,156
Alaska	0	0	0	0	18	100.0	18
Atlantic Coast	0	0	0	0	29	100.0	29
Gulf of Mexico**	37	20.2	2	1.0	144	78.6	183
Total Federal Waters	37	16.0	2	1.5	191	83.0	230
Miscellaneous	3	1.0	1	0.3	287	98.6	291
TOTAL U.S.	1,492,384	57.7	280,657	10.8	795,144	30.7	2,584,324

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Source: Oil and Gas Journal, American Petroleum Institute, and American Association of Petroleum Geologists.

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Stripper Wells:

Crude Oil Production From Stripper Wells (Thous. Bbls.)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Alabama	0	0	26	46	87	117	162	139	121	144
Arizona	0	3	2	0	4	5	6	7	5	4
Arkansas	7,719	7,239	7,282	6,659	6,748	5,044	5,199	6,172	7,754	7,231
California	51,738	58,245	65,531	61,452	77,497	60,574	52,246	51,410	49,558	45,521
Colorado	2,149	2,050	2,024	1,920	1,829	1,953	2,012	2,017	2,018	1,955
Illinois	42,861	38,304	33,128	29,827	26,024	25,215	24,936	23,614	21,160	20,325
Indiana	7,777	6,439	6,108	5,254	4,920	4,032	4,471	5,255	4,560	4,557
Kansas	55,835	51,857	50,448	45,949	44,615	43,707	44,433	44,190	44,461	43,948
Kentucky	11,301	10,531	9,128	7,314	6,464	6,183	6,173	5,421	4,713	4,549
Louisiana	8,467	8,078	7,599	7,325	7,502	7,574	8,176	7,740	7,916	7,681
Michigan	4,755	4,732	4,826	4,863	4,883	4,760	4,602	6,233	5,602	5,620
Mississippi	875	1,043	425	438	571	649	1,215	1,349	1,233	1,601
Missouri	66	66	59	60	56	57	60	61	53	54
Montana	7,454	1,919	1,910	2,144	2,024	3,579	2,947	3,25[illegible]	2,805	2,830
Nebraska	1,056	1,191	1,122	1,196	1,379	1,545	1,758	2,01[illegible]	2,025	1,865
New Mexico	10,202	10,187	10,075	10,224	10,835	11,082	11,141	11,547	11,831	12,068
New York	1,194	1,097	1,018	969	896	875	857	813	852	855
North Dakota	854	937	798	854	933	930	1,075	1,146	1,196	1,250
Ohio	6,905	5,800	6,551	6,157	6,362	6,705	6,996	7,251	7,808	8,367
Oklahoma	85,645	80,896	77,967	74,110	73,695	72,530	73,459	74,400	74,175	76,000
Pennsylvania	4,015	3,798	3,441	3,282	3,399	3,199	2,950	2,659	2,565	2,816
South Dakota	0	28	26	27	21	18	21	15	16	22
Tennessee	12	30	25	45	108	126	140	194	270	387
Texas	123,737	122,417	116,633	112,247	126,387	126,018	129,700	127,886	131,211	136,590
Utah	90	83	97	132	123	98	262	136	135	180
Virginia	1	1	0	0	3	3	3	2	2	4
West Virginia	3,124	2,969	2,677	2,407	2,673	2,478	2,400	2,384	2,255	2,382
Wyoming	3,455	3,382	2,996	1,785	1,898	5,107	4,791	5,225	5,333	5,597
TOTAL U.S.	441,287	423,322	411,924	385,684	411,936	394,163	392,191	392,532	391,633	394,405

Number of Producing Stripper Wells As of December 31:

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Alabama	0	0	14	39	44	75	71	78	69	78
Arizona	0	2	0	1	4	6	7	7	7	8
Arkansas	5,997	5,961	6,203	6,201	6,094	6,100	6,025	6,736	6,822	6,767
California	21,395	23,753	31,391	31,466	34,559	32,124	29,983	28,328	24,198	25,957
Colorado	740	774	807	867	818	881	942	990	1,016	1,074
Illinois	26,095	25,202	24,363	23,960	23,279	23,222	23,275	23,499	23,622	23,860
Indiana	7,246	6,995	7,570	4,251	3,962	4,654	4,853	5,056	5,038	5,092
Kansas	39,851	40,513	39,552	40,176	40,176	40,597	41,764	42,273	43,154	44,686
Kentucky	14,615	14,585	14,511	14,201	13,914	13,690	13,817	14,046	13,953	14,028
Louisiana	12,561	12,318	12,907	12,649	12,808	12,723	13,185	13,189	13,600	12,131
Michigan	3,555	3,392	3,389	3,356	3,370	3,330	3,260	3,276	3,331	3,405
Mississippi	344	313	211	217	278	310	617	654	657	813
Missouri	126	139	137	137	157	163	173	161	144	157
Montana	1,951	1,311	1,186	1,295	1,338	1,873	1,918	1,945	1,983	1,996
Nebraska	437	484	417	526	577	638	812	919	987	1,037
New Mexico	9,058	9,143	9,122	9,458	991	10,274	10,544	10,956	11,401	11,829
New York	5,861	5,552	5,528	5,282	4,828	5,231	4,916	4,913	4,700	5,000
North Dakota	679	721	749	635	529	569	655	687	741	782
Ohio	14,447	14,653	14,863	14,906	15,406	15,482	15,586	16,122	17,006	18,222
Oklahoma	55,718	54,712	54,788	57,000	59,817	58,736	53,357	56,239	59,971	64,893
Pennsylvania	36,801	34,029	32,596	31,539	32,095	31,661	31,274	28,400	27,768	27,925
South Dakota	0	11	12	12	8	9	10	16	11	10
Tennessee	44	46	41	53	99	133	159	213	265	318
Texas	85,117	84,950	83,666	82,302	87,412	89,027	91,498	92,887	96,713	98,487
Utah	37	44	53	84	74	48	77	74	95	106
Virginia	3	3	1	0	3	7	7	4	5	7
West Virginia	13,150	13,270	13,375	13,500	13,600	13,680	13,800	13,875	13,925	14,000
Wyoming	2,640	1,811	1,716	1,116	926	2,629	3,148	3,387	3,453	3,642
TOTAL U.S.	359,130	353,696	359,471	355,229	366,096	367,872	365,733	368,930	374,635	386,310

Source: Interstate Oil Compact Commission and National Stripper Well Association

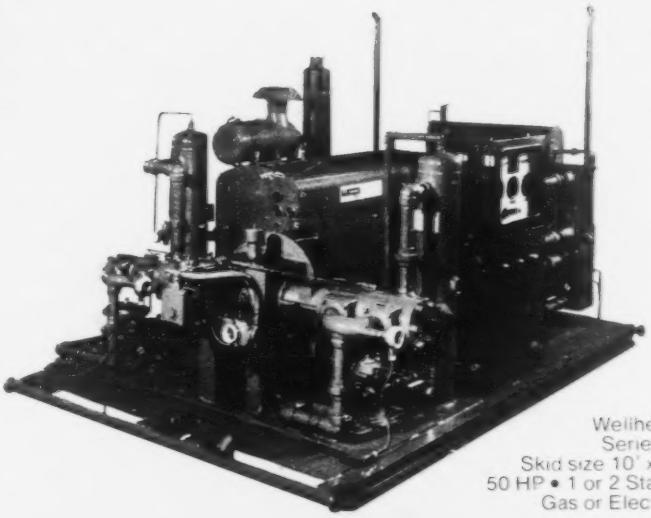
Financial Data

Year	Rate of return (%)		Exploration and development outlays (Million dollars)		
	U.S. oil companies	All mfg companies	Larger companies	Independents	Total
1968	12.2	12.1	4,087	1,303	5,390
1969	10.9	11.5	3,786	1,482	5,250
1970	9.9	9.3	3,119	1,656	4,775
1971	9.3	9.7	2,740	1,160	3,900
1972	9.6	10.6	4,225	2,255	6,480
1973	10.5	13.0	5,275	2,865	8,140
1974	14.6	14.9	8,550	3,905	13,355
1975	12.9	11.6	6,830	3,420	10,250
1976	15.2	13.9	8,646	5,864	14,510
1977	14.2	14.2	10,305	6,195	16,500
1978	13.8	15.0	11,275	8,025	19,300
1979	18.2	16.5	15,000	11,750	26,750

U.S. Petroleum Imports by Country of Origin—1980

	Thousand Barrels Daily
From O.P.E.C. Countries:	
Algeria	483
Indonesia	341
Iran	8
Libya	552
Nigeria	847
Saudi Arabia	1,257
United Arab Emirates	179
Venezuela	463
Other	121
Total O.P.E.C.	4,251
From Non-OPEC Sources	
Bahamas	78
Canada	446
Mexico	530
Netherlands Antilles	226
Puerto Rico	85
Trinidad & Tobago	176
Virgin Islands	383
Other	656
Total Non-OPEC	2,580
Total Imports	6,831

Source: U.S. Department of Energy



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Petroleum Production and New Reserves Found
All Time to December 31, 1979

	Total Liquid Petroleum (Mil. Bbls.)			Natural Gas (Bil. Cub. Ft.)		
	Found	Produced	Proved Reserves Dec. 31, 79	Found	Produced	Proved Reserves Dec. 31, 79
Florida	598.0	449.0	149.0	388.0	311.0	77.0
Maryland	0	0	0	276.0	61.0	215.0
New York	230.0	220.0	10.0*	787.0	576.0	211.0
Pennsylvania	1,346.0	1,312.0	34.0	10,835.0	9,320.0	1,515.0
Virginia	1.6	0.3	1.3*	183.5	107.7	75.8*
West Virginia	879.0	757.0	122.0	16,735.0	15,177.0	1,558.0
P.A.D. Dist. I	3,054.6	2,738.3	316.3	29,205.0	25,553.0	3,652.0
Illinois	3,376.0	3,240.0	136.0	1,932.0	1,460.0	472.0*
Indiana	1,290.0	1,250.0	40.0	223.0	171.0	52.0*
Kansas	6,289.0	5,510.0	779.0	36,056.0	25,813.0	10,243.0
Kentucky	804.0	753.0	51.0	3,888.0	3,420.0	468.0
Michigan	1,115.0	844.0	271.0	1,338.0	134.0	1,204.0
Missouri	3.3	2.7	0.6*	3.7	1.7	2.0*
Nebraska	417.0	391.0	26.0	397.0	312.0	85.0*
North Dakota	870.0	612.0	258.0	1,302.0	863.0	439.0
Ohio	942.0	860.0	82.0	7,082.0	5,603.0	1,479.0
Oklahoma	15,750.0	14,153.0	1,597.0	64,606.0	50,790.0	13,816.0
South Dakota	9.9	6.9	3.0*	0.5	0.3	0.2*
Tennessee	8.6	6.0	2.6*	15.5	3.4	12.1*
P.A.D. Dist. II	30,871.8	27,628.6	3,243.2	116,843.2	88,571.0	28,222.2
Alabama	513.0	255.0	258.0	897.0	245.0	652.0
Arkansas	1,683.0	1,559.0	124.0	5,196.0	3,493.0	1,703.0
Louisiana	25,901.0	21,697.0	4,204.0	201,884.0	151,842.0	50,042.0
Mississippi	2,241.0	1,987.0	254.0	6,955.0	5,451.0	1,504.0
New Mexico	6,765.0	5,672.0	1,093.0	44,915.0	31,191.0	13,724.0
Texas	64,808.0	54,042.0	10,766.0	277,014.0	223,993.0	53,021.0
P.A.D. Dist. III	101,911.0	85,212.0	16,699.0	536,861.0	426,215.0	120,646.0
Colorado	1,702.0	1,366.0	336.0	5,942.0	3,334.0	2,608.0
Montana	1,203.0	1,041.0	162.0	2,569.0	1,744.0	825.0
Utah	990.0	730.0	260.0	2,321.0	1,373.0	948.0
Wyoming	5,925.0	4,799.0	1,126.0	16,208.0	8,682.0	7,526.0
P.A.D. Dist. IV	9,820.0	7,936.0	1,884.0	27,040.0	15,133.0	11,907.0
Alaska	10,781.0	1,883.0	8,898.0	34,177.0	1,918.0	32,259.0
Arizona	24.5	17.5	7.0*	62.2	17.2	45.0*
California	24,943.0	19,567.0	5,376.0	33,559.0	28,537.0	5,022.0
Nevada	8.2	7.1	1.1*	0.0	0.0	0.0
Oregon	0.0	0.0	0.0	0.2	0.0	0.2
P.A.D. Dist. V	35,756.7	21,474.6	14,282.1	67,798.2	30,472.0	37,326.2
Miscellaneous	181,414.1	144,989.5	36,424.6	772,747.4	575,944.0	201,803.4
TOTAL U.S.	362,828.2	289,979	72,849.2	1,555,494.8	1,161,888	403,556.8

* Estimated
Source: American Petroleum Institute and American Gas Association and U.S. Department of Energy

Estimated Average Number of Employees in Important Segments of the Petroleum Industry in 1980

	Mining	Manufacturing		Transportation		Wholesale	Retail	
	Crude Oil and Natural Gas Extraction	Petroleum Refining	Lubricating Oils and Greases	Pipelines (Except Natural Gas)	Gas Production and Distribution	Petroleum and Petroleum Products	Gasoline Service Stations	Total
Alabama	1,716	380	N.D.	94	2,943	4,111	7,555	16,799
Alaska	5,870	N.D.	0	N.D.	230	350	925	7,375
Arizona	157	110	0	N.D.	959	1,414	7,145	9,785
Arkansas	3,247	746	N.D.	325	2,326	2,556	4,832	14,032
California	32,745	24,587	859	849	9,797	16,220	58,778	143,835
Colorado	18,064	538	29	154	2,206	3,133	9,083	33,207
Connecticut	240	0	90	20	1,310	2,420	8,580	12,660
Delaware	53	923	9	0	404	413	1,508	3,310
Florida	735	188	83	60	2,115	6,948	25,755	35,884
Georgia	76	107	118	482	3,557	6,303	14,176	24,819
Hawaii	0	450	0	0	357	454	3,391	4,652
Idaho	170	0	0	15	495	1,461	2,063	4,204
Illinois	6,500	11,000	800	1,100	9,000	10,800	30,000	69,200
Indiana	743	3,392	383	446	2,830	4,316	15,088	27,198
Iowa	13	0	N.D.	188	1,188	3,984	11,038	16,411
Kansas	13,716	4,022	444	2,043	4,869	2,847	7,121	[illegible] 062
Kentucky	2,905	3,494	3	171	2,803	3,013	9,660	[illegible],049
Louisiana	85,779	12,288	447	1,143	6,401	6,236	9,173	121,467
Maine	N.D.	0	0	N.D.	N.D.	1,219	2,461	3,680
Maryland	66	0	232	0	1,439	3,450	12,754	17,941
Massachusetts	15	280	320	N.D.	4,790	3,770	14,060	23,235
Michigan	3,876	2,109	497	250	8,334	6,535	20,879	42,480
Minnesota	N.D.	979	N.D.	216	2,658	2,845	15,636	22,334
Mississippi	9,680	1,260	80	180	2,180	2,980	4,890	21,250
Missouri	150	N.D.	300	280	4,710	7,380	14,260	27,080
Montana	4,636	1,036	0	100	103	1,666	2,691	10,232
Nebraska	723	64	179	111	3,446	1,718	6,676	12,917
Nevada	811	N.D.	N.D.	22	N.D.	492	3,625	4,950
New Hampshire	17	0	0	3	312	656	2,436	3,424
New Jersey	98	8,995	1,027	140	1,913	4,687	18,026	34,886
New Mexico	13,441	1,023	8	231	3,555	1,705	4,408	24,371
New York	2,202	10,352	384	119	7,067	13,879	29,165	63,168
North Carolina	26	14	181	116	2,298	7,327	10,297	20,259
North Dakota	6,314	271	0	146	12	2,151	2,388	11,282
Ohio	9,823	9,547	670	713	7,989	6,380	26,918	62,040
Oklahoma	68,300	8,000	400	2,700	5,000	7,200	5,900	97,500
Oregon	136	0	10	0	1,503[1]	2,302	8,187	12,138
Pennsylvania	4,117	13,054	1,509	722	8,819	10,994	27,651	66,866
Rhode Island	54	0	0	0	842	723	2,106	3,725
South Carolina	0	0	0	0	510	3,621	6,748	10,879
South Dakota	108	17	0	64	136	1,506	2,831	4,662
Tennessee	2,771	1,063	100	184	6,635	17,800	48,733	77,286
Texas	231,170	37,234	442	5,636	27,257	25,505	34,643	361,887
Utah	4,520	879	3	105	2,566	1,807	4,350	14,230
Vermont	0	0	14	0	141	418	1,490	2,063
Virginia	200	200	0	100	2,300	6,500	14,200	23,500
Washington	103	1,625	N.D.	89	1,571	2,993	9,397	15,778
West Virginia	4,500	N.D.	N.D.	N.D.	5,500	2,100	4,200	16,300
Wisconsin	17	150	112	157	2,865	4,547	14,324	22,172
Wyoming	18,077	1,712	2	412	870	1,003	2,980	25,056
Dist. of Columbia	0	0	0	0	41	210	1,034	1,285
TOTAL U.S.	558,680	162,089	9,735	19,886	171,152	217,248	606,196,000	1,762,825

N.D. = Non-Disclosure

[1] Figure combines pipeline and gas production and distribution categories

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Estimated Cost of Drilling and Equipping Wells — 1979

	Wells Drilled (No.)	Footage Drilled (Th. Ft.)	Total Cost (Th. $)	Average Depth Well (Ft.)	Average Cost/ Well	Average Cost/ Foot
Alabama	215	1,420	115,952	6,604	$ 539,311	$ 81.66
Alaska						
Onshore	80	878	304,564	10,975	3,807,050	346.88
Offshore	3	34	10,868	11,333	3,622,666	319.65
Total	83	912	315,432	10,987	3,800,385	345.87
Arkansas	490	2,430	93,577	4,959	190,973	38.51
California						
North	146	933	47,360	6,390	324,383	50.76
Central Coastal	235	839	70,898	3,570	301,693	84.50
East Central	1,442	3,480	253,319	2,413	175,671	72.79
South	77	340	33,807	4,415	439,051	99.43
Offshore	70	471	99,302	6,728	1,418,600	210.83
Total	1,970	6,062	504,685	3,077	256,185	83.25
Colorado	1,064	5,412	218,918	5,08[illegible]	205,750	40.45
Florida	26	326	31,775	12,53[illegible]	1,222,115	97.47
Illinois	1,122	3,005	71,357	2,6[illegible]8	63,598	23.75
Indiana	478	901	19,165	1,884	40,094	21.27
Kansas	4,258	14,300	316,118	3,358	74,240	22.11
Kentucky	885	1,256	35,434	1,419	40,038	28.21
Louisiana						
North	2,116	7,406	289,377	3,500	136,756	39.07
South	1,223	13,397	1,584,260	10,954	1,295,389	118.25
Offshore	891	9,038	2,118,755	10,143	2,377,951	234.43
Total	4,230	29,840	3,992,391	7,054	943,827	133.79
Michigan	481	2,280	118,298	4,740	245,941	51.89
Mississippi	505	4,425	269,005	8,762	532,683	60.79
Montana	757	3,024	158,088	3,994	208,834	52.28
Nebraska	429	1,842	36,709	4,293	85,568	19.93
New Mexico						
East	782	5,324	341,233	6,808	436,359	64.09
West	804	3,849	167,134	4,787	207,878	43.42
Total	1,586	9,174	508,367	5,784	320,534	55.41

Continued

Estimated Cost of Drilling and Equipping Wells — 1979

	Wells Drilled (No.)	Footage Drilled (Th. Ft.)	Total Cost (Th. $)	Average Depth Well (Ft.)	Average Cost/ Well	Average Cost/ Foot
North Dakota	442	3,948	309,858	9,013	701,036	78.48
Oklahoma	6,286	32,007	1,911,084	5,091	304,022	59.71
Texas						
District 1	893	2,940	116,775	3,292	130,767	39.72
2	803	4,978	270,081	6,199	336,339	54.25
3	1,329	9,935	698,196	7,475	525,354	70.28
4	1,315	9,403	685,890	7,150	521,589	72.94
5	259	1,847	166,649	7,131	643,432	90.23
6	635	5,265	427,621	8,291	673,418	81.22
7B	2,437	7,825	234,867	3,210	96,375	30.01
7C	1,350	7,689	271,405	5,695	201,040	35.30
8	1,613	9,182	525,986	5,692	326,081	57.28
8A	1,168	6,895	253,274	5,903	216,844	36.73
9	2,223	7,788	215,163	3,503	96,789	27.63
10	758	5,384	364,618	7,102	481,026	67.72
Offshore	239	2,234	660,495	9,347	2,765,577	295.66
Total	15,022	81,366	4,891,018	5,416	325,590	60.11
Utah	272	1,650	204,801	6,066	752,944	124.12
Wyoming	1,272	9,777	933,765	7,686	734,091	95.51
Appalachian*	6,214	20,676	648,463	3,327	104,355	31.36
Offshore						
Federal Water						
Alaska	3	24	24,271	8	8,090,333	1,011.29
Atlantic Coast	18	233	139,038	12,944	7,724,333	596.73
Gulf of Mexico						
North**	36	357	154,302	9,916	4,286,166	432.22
Total	57	615	317,612	10,789	5,572,140	516.44
Other U.S.***	379	864	57,056	2,279	150,543	66.04
TOTAL U.S.	48,523	237,512	16,078,930	4,894	331,367	67.70

Source: Joint Association Survey.

*New York, Ohio, Pennsylvania, and West Virginia.

**Gulf of Mexico Northern is a new area designated by the Bureau of Land Management for federally controlled Outer Continental Shelf (OCS) waters not previously mapped or leased. The area covers Gulf of Mexico OCS waters off the states of Texas, Louisiana, Mississippi, Alabama, and Florida.

***Georgia, Idaho, Missouri, Nevada, South Dakota, Tennessee, Virginia, and Washington.

Statistical Summary of the Petroleum Producing Industry—1951-1980

Year	PRODUCTION: Crude Oil[2] (1,000 B/D)	PRODUCTION: Nat. Gas Liquids (1,000 B/D)	PRODUCTION: Total (1,000 B/D)	IMPORTS[3]: Crude Oil (1,000 B/D)	IMPORTS[3]: Refined Products (1,000 B/D)	IMPORTS[3]: Total (1,000 B/D)	OTHER SUPPLY[1] (1,000 B/D)	TOTAL SUPPLY (1,000 B/D)	PETROLEUM DEMAND: Domestic (1,000 B/D)	PETROLEUM DEMAND: Export (1,000 B/D)	PETROLEUM DEMAND: Total (1,000 B/D)	CRUDE OIL VALUE (Mil. $)	CRUDE OIL PRICE $ per Bbl
1951	6,158	562	6,7290	491	353	844	7	7,571	7,060	422	7,482	5,690	2.53
1952	6,256	612	6,868	573	379	952	7	7,827	7,283	436	7,719	5,785	2.53
1953	6,458	655	7,113	648	386	1,034	20	8,167	7,624	401	8,025	6,327	2.68
1954	6,343	692	7,035	656	396	1,052	23	8,110	7,784	355	8,139	6,425	2.78
1955	6,807	772	7,579	782	466	1,248	34	8,861	8,493	368	8,861	6,870	2.77
1956	7,151	801	7,952	934	502	1,436	43	9,431	8,822	430	9,252	7,297	2.79
1957	7,170	809	7,979	1,023	552	1,574	42	9,595	8,860	568	9,428	8,079	3.09
1958	6,710	808	7,518	953	747	1,700	64	9,282	9,146	276	9,422	7,380	3.01
1959	7,053	880	7,933	966	815	1,780	86	9,799	9,494	255	9,749	7,473	2.90
1960	7,035	930	7,965	1,015	799	1,815	146	9,926	9,807	202	10,009	7,420	2.88
1961	7,183	991	8,174	1,045	871	1,917	179	10,270	9,985	174	10,159	7,566	2.89
1962	7,332	1,021	8,353	1,126	956	2,082	175	10,610	10,410	168	10,578	7,769	2.90
1963	7,542	1,098	8,640	1,131	992	2,123	202	10,965	10,753	208	10,961	7,966	2.89
1964	7,614	1,155	8,769	1,196	1,060	2,258	217	11,244	11,032	202	11,234	8,017	2.88
1965	7,804	1,210	9,014	1,238	1,230	2,468	220	11,702	11,523	187	11,710	8,147	2.86
1966	8,295	1,284	9,579	1,225	1,348	2,573	245	12,397	12,095	198	12,293	8,727	2.88
1967	8,810	1,410	10,220	1,128	1,409	2,537	292	13,049	12,569	307	12,876	9,375	2.91
1968	9,096	1,503	10,599	1,290	1,550	2,840	348	13,787	13,404	231	13,635	9,795	2.94
1969	9,238	1,589	10,827	1,409	1,757	3,166	340	14,333	14,148	233	14,381	10,427	3.09
1970	9,637	1,660	11,297	1,324	2,094	3,419	355	15,071	14,709	259	14,968	11,174	3.18
1971	9,463	1,692	11,155	1,681	2,245	3,926	439	15,520	15,225	224	15,449	11,693	3.39
1972	9,441	1,744	11,185	2,216	2,525	4,741	444	16,370	16,379	223	16,602	11,707	3.39
1973	9,208	1,738	10,946	3,244	3,012	6,256	485	17,687	17,321	231	17,552	13,058	3.89
1974	8,774	1,688	10,462	3,477	2,635	6,112	491	17,065	16,666	220	16,886	21,581	6.87
1975	8,375	1,632	10,007	4,105	1,951	6,056	514	16,577	16,335	209	16,544	23,116	7.67
1976	8,132	1,604	9,736	5,287	2,026	7,313	592	17,641	17,476	223	17,699	24,230	8.19
1977	8,244	1,618	9,862	6,595	2,192	8,787	568	19,217	18,447	243	18,690	25,791	8.57
1978	8,707	1,567	10,274	6,195	2,008	8,203	492	18,969	18,862	362	19,224	28,478	9.00
1979	8,552	1,584	10,136	6,452	1,940	8,392	581	19,109	18,531	471	19,002	39,368	12.64
1980	8,597	1,564	10,161	5,177	1,610	6,787	716	17,664	17,020	541	17,561	67,933	21.19

Year	NEW WELLS DRILLED: Oil (No.)	NEW WELLS DRILLED: Gas* (No.)	NEW WELLS DRILLED: Dry (No.)	NEW WELLS DRILLED: Service** (No.)	NEW WELLS DRILLED: Total (No.)	Percent Dry	FOOTAGE DRILLED: Total (Mill. Ft.)	FOOTAGE DRILLED: Per Well Drilled	Total Proved Reserves on Dec. 31 (Mil. Bbls.)	Total New Reserves Added (Mil. Bbls.)	AVERAGE HOURLY EARNINGS: Crude Oil $ per Hour	AVERAGE HOURLY EARNINGS: All Mfg. Industries $ per Hour
1951	23,453	3,030	16,653	1,380	44,516	37.4	172.3	3,871	32,193	5,138	1.85	1.56
1952	23,466	3,255	17,618	1,482	45,821	38.4	187.2	4,085	32,957	3,306	1.98	1.65
1953	25,762	3,806	18,449	1,262	49,279	37.4	198.8	4,034	34,383	4,040	2.10	1.74
1954	29,773	3,977	19,168	1,012	53,930	35.5	219.0	4,061	34,805	2,980	2.15	1.78
1955	31,567	3,613	20,742	760	56,682	36.6	226.3	3,992	35,451	3,386	2.20	1.86
1956	30,730	4,543	21,838	1,049	58,160	37.5	233.9	4,022	36,337	3,784	2.35	1.95
1957	26,012	4,620	20,983	1,409	55,204	38.1	233.1	4,055	35,987	2,562	2.47	2.05
1958	24,578	4,803	19,043	1,615	50,039	38.1	198.2	3,961	36,740	3,466	2.54	2.11
1959	25,800	5,029	19,265	1,670	51,764	37.2	209.2	4,041	38,241	4,370	2.65	2.19
1960	21,166	5,258	17,584	2,733	46,751	37.6	190.7	4,079	38,429	3,090	2.69	2.26
1961	21,101	5,664	17,106	3,091	46,962	36.4	192.1	4,091	38,835	3,353	2.80	2.32
1962	21,249	5,848	16,682	2,400	46,179	36.1	198.6	4,301	38,701	2,914	2.83	2.39
1963	20,288	4,751	16,347	2,267	46,656	37.4	184.4	4,224	38,644	3,052	2.92	2.46
1964	20,620	4,855	17,488	2,273	45,236	38.7	189.9	4,198	38,738	3,274	2.95	2.53
1965	18,761	4,724	16,025	1,922	41,432	38.7	181.5	4,380	39,376	3,880	3.03	2.61
1966	16,780	4,377	15,227	1,497	37,881	40.2	166.0	4,383	39,781	3,858	3.13	2.72
1967	15,329	3,659	13,246	1,584	33,818	39.2	144.7	4,280	39,991	3,892	3.25	2.83
1968	14,331	3,456	12,812	2,315	32,914	38.9	149.3	4,536	39,305	3,141	3.38	2.94
1969	14,368	4,083	13,736	1,866	34,053	40.3	160.9	4,726	37,775	2,401	3.59	3.19
1970	13,020	3,840	11,260	1,347	29,467	38.2	142.4	4,834	46,704[2]	12,996[2]	3.83	3.36
1971	11,858	3,830	10,163	1,449	27,300	37.2	128.3	4,700	45,367	2,665	4.16	3.57
1972	11,306	4,928	11,057	1,464	28,755	38.5	138.4	4,609	43,125	1,796	4.46	3.81
1973	9,902	6,385	10,305	1,010	27,602	37.3	138.9	5,032	41,455	2,555	4.80	4.06
1974	12,784	7,240	11,674	1,195	32,893	35.5	153.8	4,676	40,600	2,613	5.33	4.40
1975	16,408	7,580	13,247	1,862	39,097	3.9	178.5	4,566	38,950	1,937	6.05	4.80
1976	17,059	9,085	13,621	1,690	41,455	32.9	185.3	4,471	37,344	1,920	6.59	5.19
1977	18,912	11,378	14,692	1,497	46,479	31.6	215.0	4,626	35,481	1,695	7.13	5.63
1978	17,775	13,064	16,218	1,456	48,513	33.4	231.4	4,770	33,730	1,943	8.12	6.14
1979	19,383	14,681	15,752	1,447	51,263	30.7	243.2	4,744	32,707	2,595	8.79	6.68
1980	27,026	15,730	18,099	1,617	62,482	29.0	288.9	4,625	N.A.	N.A.	9.72	7.27

NOTES:
†Includes Natural Gas Liquids.
*Includes condensate wells since 1956
**Includes stratigraphic and core tests
[1]Includes net processing gain, unaccounted for crude oil and other hydrocarbons.
[2]Includes Alaskan North Slope
[3]Excludes Imports for U.S. Strategic Storage.

Source: Petroleum Supply, Demand, Crude Oil Value and Crude Oil Price from Energy Information Administration. Wells and Footage Drilled from oil and Gas Journal, A.P.I. and A.A.P.G. Reserves from American Petroleum Institute, American Gas Association and Department of Energy. Average Hourly Earnings from U.S. Bureau of Labor Statistics based on 1972 Standard Industrial Classification.

Estimated Consumption of Petroleum Products—1979

(Thousand Barrels)

	Motor Gasoline	Aviation Fuels[1]	Middle Distillates[2]	Residual Fuel Oil	L.P.G.	Asphalt Road Oil	All Other	Total
Alabama	49,850	1,102	15,979	10,012	4,505	4,020	11,678	97,146
Alaska	4,918	6,058	6,828	267	151	264	2,514	21,000
Arizona	33,643	4,031	13,094	5,166	1,319	4,924	8,516	70,693
Arkansas	30,232	616	15,135	10,938	3,942	4,104	8,840	73,807
California	270,607	44,872	69,809	157,957	18,215	23,812	79,803	665,075
Colorado	37,036	4,958	12,520	1,179	2,889	3,659	8,516	70,757
Connecticut	32,683	1,843	28,510	27,248	1,157	1,079	12,652	105,172
Delaware	7,297	116	4,040	11,074	5,608	526	3,893	32,554
Florida	116,801	21,787	29,068	98,700	7,767	9,122	38,604	321,849
Georgia	71,966	12,991	18,984	13,371	6,039	6,572	17,761	147,684
Hawaii	7,916	10,907	5,997	13,005	753	335	5,272	44,185
Idaho	12,827	511	7,762	1,235	674	1,040	3,244	27,293
Illinois	123,480	19,434	50,269	27,736	40,747	14,304	37,631	313,601
Indiana	68,929	1,791	37,205	17,417	7,455	10,016	19,464	162,277
Iowa	40,924	942	21,447	896	11,547	4,117	10,867	90.740
Kansas	33,496	1,406	20,079	5,009	7,742	4,152	9,813	81,697
Kentucky	44,476	2,013	24,686	1,231	8,390	3,772	11,516	96,084
Louisiana	51,389	4,926	35,768	59,627	50,627	3,761	28,142	234,240
Maine	12,897	918	11,890	10,745	897[3]	432	5,190	42,969
Maryland	46,461	1,882	25,434	23,847	1,616[3]	4,636[1]	14,192	118,068
Massachusetts	57,419	7,107	43,447	58,959	1,758	1,847	23,276	193,813
Michigan	113,252	4,487	33,177	18,797	5,913	5,290	24,655	205,571
Minnesota	52,896	4,693	26,934	2,770	6,234	6,478	13,625	113,630
Mississippi	30,767	557	11,802	22,814	4,682	6,158	10,462	87,242
Missouri	66,339	6,289	23,665	3,378	10,863	6,858	15,976	133,368
Montana	11,890	744	9,054	5,706	861	1,327	4,055	33,637
Nebraska	21,604	1,012	12,914	633	3,692	1,042	5,596	46,493
Nevada	11,927	4,812	3,085	1,542	669	944	3,163	26,142
New Hampshire	10,332	107	6,014	6,109	1,085	543	3,325	27,515
New Jersey	80,823	5,198	52,489	60,983	6,226	7,835	29,115	242,669
New Mexico	18,892	955	10,789	541	3,572	1,893	5,028	41,670
New York	141,666	28,070	92,495	130,347	4,353	7,137	55,148	459,216
North Carolina	74,512	1,802	32,903	11,899	6,226	4,205	17,842	149,389
North Dakota	10,564	376	8,434	858	1,272	1,120	3,082	25,706
Ohio	127,539	5,229	49,499	10,180	31,138	11,846	32,035	267,466
Oklahoma	45,186	2,008	15,035	877	6,676	7,277	10,543	87,602
Oregon	32,977	2,275	18,864	5,924	1,153	4,144	8,921	74,258
Pennsylvania	120,043	8,058	79,463	45,363	6,620	7,494	36,414	303,455
Rhode Island	9,406	258	7,195	2,387	249	1,293	2,839	23,627
South Carolina	39,472	534	13,014	11,247	2,801[3]	2,509	9,489	79,066
South Dakota	11,238	314	6,367	175	1,930	1,055	2,839	23,918
Tennessee	60,196	3,979	26,262	2,417	2,125	5,623	13,706	114,308
Texas	207,397	19,982	105,507	72,373	143,395	16,258	77,045	641,957
Utah	17,393	1,276	9,717	3,161	1,168	2,546	4,866	40,127
Vermont	6,217	112	5,795	339	910[3]	96	1,865	15,334
Virginia	65,232	7,901	36,078	34,012	2,342[3]	4,145	20,437	170,147
Washington	47,526	8,799	21,694	13,374	1,198	4,044	13,219	109,854
West Virginia	21,163	275	11,522	1,983	2,454	1,450	5,272	44,119
Wisconsin	56,011	2,095	32,530	2,016	5,371	4,182	13,949	116,154
Wyoming	9,087	214	12,095	2,966	1,660	1,305	3,731	31,058
Dist. of Columbia	4,844	2	4,683	767	[4]	[4]	1,379	11,675
TOTAL U.S.	2,681,638	272,624	1,277,026	1,031,557	450,636	232,591	811,005	6,757,077

[1] Does not include aviation fuel for military use

[2] Includes Kerosene

[3] Estimated

[4] Dist. of Columbia included in Maryland

Source: Federal Highway Administration, U.S. Department of Energy, and Ethyl Corporation

U.S. Drilling Costs & Cost Indices

	Cost Indices (1967 = 100)				Drilling Costs		
	Oil Field Machinery	Oil Well Casing	Line Pipe	Oil Field Wages	Total (Thous. $)	Per Well	Per Foot
1959	91.3	91.6	105.1	81.5	2,651,000	$53,000	$12.90
1960	91.3	91.6	104.1	82.8	2,425,000	54,900	13.01
1961	92.7	89.5	102.9	86.2	2,398,162	54,500	12.85
1962	94.0	88.0	103.5	87.1	2,576,675	58,635	13.31
1963	93.3	88.8	105.9	89.9	2,302,864	55,023	12.69
1964	94.8	91.9	103.6	90.8	2,427,367	55,820	12.86
1965	95.2	96.2	97.9	93.2	2,401,437	60,648	13.44
1966	96.5	96.2	97.9	96.3	2,360,740	68,386	14.95
1967	100.0	100.0	100.0	100.0	2,299,178	72,902	15.97
1968	106.4	101.5	103.9	104.0	2,409,360	81,463	16.83
1969	112.7	104.5	109.2	110.5	2,610,671	88,554	17.56
1970	118.4	109.1	112.8	117.8	2,578,682	94,885	18.84
1971	122.6	120.7	124.7	128.0	2,371,492	94,708	19.03
1972	127.3	127.3	133.7	137.2	2,814,165	106,224	20.76
1973	133.2	133.2	139.1	147.7	3,074,532	117,152	22.50
1974	157.8	170.7	189.8	164.0	4,386,989	138,718	28.93
1975	196.3	211.5	227.8	186.2	6,571,214	177,793	36.99
1976	217.6	223.0	234.3	202.8	7,461,680	191,615	40.46
1977	236.5	244.3	260.5	219.4	9,956,453	227,181	46.81
1978	261.2	271.6	296.6	249.8	13,061,000	279,950	56.63
1979	289.7	285.2	303.4	270.3	6,078,930	331,367	67.70
1980	335.3	327.4	336.2	298.6	N.A.	N.A.	N.A.

Source: Cost Indices from U.S. Bureau of Labor Statistics and Drilling Costs from Joint Association Survey

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